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THE

MINERAL SPRINGS

OF

AIX-LA-CHAPELLE

AND OF

BORCETTE.

...AL PROPERTIES AND INSTRUCTIONS
FOR THEIR USE

...IFIED IN ANCIENT AND MOD...N CASES

BY

...ALEX. REUMONT, M. D.,
PHYSICIAN IN AIX-LA-CHAPELLE.

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ADVERTISEMENT.

Presuming that my German Treatise recently published on the mineral springs of Aix-la-Chapelle and Borcette would not only interest but benefit the many English sufferers under the several maladies for which those springs afford a cure, I have translated it into the English language. I was the more induced to this attempt, having been formerly attached to one of the great London Hospitals, and nearly twenty years having passed, since any English work has appeared on the subject.

The subjoined *Cases*, classified in their order and character — some of them in an abridged form but with no detriment to their perspicuity — are selected from ancient and modern observers on the Aix-la-Chapelle springs; others are from my own personal experience; but principally from the notes of my late father, Doctor Gerard Reumont

during his very long practice as a Physician in this City.

I now commit my little Manual to the indulgence, and — let me hope also — to the service, of its English readers.

Aix-la-Chapelle, 1861.

A. R.

AIX-LA-CHAPELLE.

"An old and venerable spring, wherein the Romans and ancient Germans had used to bathe, and Charlemagne obtained strength and recreation after his campaigns; but still excellent in its virtues, and acting with unimpaired and salutiferous effect through so many centuries unto this day."
Chr. Wilh. Hufeland.

SITUATION. THERMOMETRIC, BAROMETRIC AND GEOLOGICAL RELATIONS. FLORA.

Aix-la-Chapelle, an ancient town with about 58,000 inhabitants in the Rhenish provinces of Prussia near the Dutch (Limburg) frontier, and between the rivers Rhine and Maes, lies under the 50° 46′ 34″ north latitude and the 23° 44′ 17″ east longitude from Ferro (6° 4′ 39″ east longitude from Greenwich): the altitude, from the base of the fountain of the market-place, is 553,4 Prussian, or 534,7 Paris, or 569,8 English feet above the level of the sea (Amsterdam water-mark Nr. 0), few hot sources lying so low. The summit of the *Lousberg*, at the Pyramid, is 263 feet higher than the foot of the Sandkaul-gate. According to a twelve years diligent observation made by Professor *Heiss*, the mean temperature is found to be + 7,49° R. (48,9° Fahr.); that of the morning observations + 6,20° R. (46° Fahr.),

of those made at noon + 9,69° R. (53,8° Fahr.), and those of the evening + 6,68° R. (47,03° Fahr.) The media of the seasons are: Winter 1,27° R. (34,86° Fahr.), Spring 7,04° R. (47,84° Fahr.), Summer 13,51° R. (62,4° Fahr.,) Autumn 8,46° R. (51,3° Fahr.) The mean temperature of spring-water (cold sources, and for the most part hard) is + 7,8° R. (49,55° Fahr.) The mean point of the Barometer is at 0° R. (32° Fahr.) mercury warmth — 27 inch. 6,86 lin. The saturation of the atmosphere with vapour 5,79 Gr. in 1′ cub. rhen. air. The prevailing winds are north-east and south; the inclination of the Compass shows 19° 33′ westerly (1st January 1850); the yearly decrease is 8 min.

As to *the geological relations* of the Basin of Aix-la-Chapelle (a bay of a former World) there are perhaps few regions in Germany which equal them in variety, or in reference to natural history and commercial interest. Within less than a (german) mile we find here four of the most important geological formations: in the south and east the Transition limestone (Devonian System), which in the west is leaning toward the Belgian, and in the east toward the Eifel- and Rhenish limestone; from this spring the hot sulphureous sources; in it are found rich veins of lead, calamine, iron and copper. In the west and north-west of the town rises a series of undulated hills, suggesting a mighty Chalk-formation, which shows itself *two strata:* the Greensand, which Dr. *J. Müller*

parallels with the Greensand of Blackdown, and the other and younger formation, which he compares to the upper Chalk-formation of Dover, Meudon, Rügen etc., and is celebrated for its rich petrifications of shells, remains of animals, and plants of a former world. From the Chalk-mountain, as everywhere, spring the richest and healthiest sources of common water, which supply the town with most excellent drinkable water. In the north and north-east the Coal-formation is developed of a rare thickness; not only the inhabitants of the adjacent villages getting their livelihood by mining the immense coalpits, but Aix-la Chapelle itself being, since the invention of the steam-engine, indebted to these inexhaustible coal-seams for its prosperity. Besides these three important geological epocha, there appears near the village of Nirm a very interesting stratum of Brown-coal with a sand belonging to this formation, which supplies the neighbouring glass-houses with an excellent material. — The surface of the whole district is covered with diluvial Detritus, the Rhenish Löss, and Pebbles, for the most part Flintstone. The interesting discovery by Professor *Ehrenberg* of Infusory Animalcula in a fossil state, has led to the discovery of such fossils in the cretaceous formation of Aix.

This variety in the relations of the soil, and the different heating of certain layers of earth through the hot springs, render the Flora of the environs of Aix very rich, which exhibits within

scarcely six (English) miles more than a thousand species of Phanerogamic Plants, and a no less varied number of Cryptogamic.

Aix-la-Chapelle possesses mineral Springs of different qualities: *hot sulphureous* (Thermae) and *chalybeate.*

THE HOT SULPHUREOUS SPRINGS OF AIX-LA-CHAPELLE.

These, unquestionably known to the Romans, and renovated by the Emperor *Charlemagne,* bubble up through and over beds and strata of transition Limestone, nearly in the centre of the town, and give together, according to computations made in 1811, an hourly supply of 26 cubic metres of water, being nearly 230,000 cubic metres yearly. Adding to these the hot springs of *Borcette,* the mineral waters of the two places withdraw from the earth about 1,760,000 Kilo, or 35,000 quintals, of different salts, among which are 25,000 quintals of common salt. This great quantity of the latter gave the late Dr. *Monheim* the idea, that a considerable stratum of mineral salt exists in the vicinity of both towns. To produce artificially the heat of the mineral springs would require 5 millions Kilo of dry fire-wood yearly.

All the hot springs of Aix-la-Chapelle deposit *sublimated Sulphur* (Flowers of Sulphur) and Sinter; but of the latter less than do the hot springs of *Borcette, which* exhibit less of the sublimated

sulphur; according to the late Drs. *G. Reumont* and *Monheim*, about two quintals of sulphur are obtainable, if the stone which covers the "Emperor's source" is removed after twenty years.

According to the ruling systems several theories have been advanced as causing *the heat* of the Aix-la-Chapelle and Borcette warm mineral waters; the fact. that the temperature of the earth encreases with the depth (which has been anticipated by the ancient naturalists, but not proved till the present time) sufficiently explains the warmth of these mineral sources; though the influence of any volcanic action which is in connection with a central heat may not be quite excluded.*

Several *earthquakes* have had a decided influence on the springs; viz. the earthquake of the year 1755—56, which lasted for about two months with more or less violence, and put the sources on the 18th February 1756 into most violent movement; it is recorded that several springs then in action (on the "Seilgraben") have ceased to exist. The earthquake in 1828 likewise has not been without its influence on them.

If we determine *the depth* of these hot springs only according to the warmth of the earth, it follows, adopting the law that the encrease of the warmth in our degree of latitude is 1° R.

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* The nearest extinguished volcanos are those of the "Eifel" and the "Roderberg" near Bonn, in a distance of about 20—36 english miles.

($2^1/_4{}^0$ Fahr.) for each 113′ of Paris, and after deducting + $7{,}8^0$ R. ($49{,}55^0$ Fahr.) mean temperature of the common water, that the source of the "Emperor" (= 44^0 R., 131^0 Fahr.) has a depth of about 4000′ of Paris, and the hottest spring in Borcette ($59^1/_2{}^0$ R., 166^0 Fahr.) a depth of about 5900′ of Paris.

From olden times the Aix-la-Chapelle warm waters have been distinguished, according to their situation on the decline and at the foot of a hill, by the *upper* (western) and by the *lower* (eastern) springs, though the level of the latter lies but 4—6 feet lower, and both being in a hydrostatic connection.

The upper sources and their bath-houses. These sources are the strongest and hottest, and situated at the "Büchel", a street on the declivity of a hill upon the summit of which the Market-place and the Townhall stand, and at the "Hof". They are as follows:

1. *The Emperor's well* (Kaiserquelle), the chief spring of Aix, named after Charlemagne, who, according to his biographer Eginhard, frequently used it. It issues from a rock in the *Emperor's bath-house* (Kaiserbad) on the Büchel, and furnishes water in abundance to that establishment, to the *New-bath-Hotel* (Neubad), to the *Bath of the Queen of Hungary* (Bad zur Königin von Ungarn) and to the *Fountain Elise* (Elisenbrunnen, the common drinking-well). The

temperature* of the Emperor's well is 44° R. (131° Fahr.); it surpasses all the other warm springs in the abundance of its substances, and in its heat. The Emperor's bath-house, an old building and in its present condition unworthy the high reputation of its source, will shortly be rebuilt.

2. The *St. Quirinus-well* issues in the *bath-house of St. Quirinus*, situated on the "Hof"; it's temperature being 39,7° R. (121,32° Fahr.)

A new and extensive bath-house, situated in the Edelstrasse, is in construction.

The lower sources and their bath-houses, all situated in the *Comphausbad-street:* these *sources* are less hot than the upper ones and in connection with eachother. They are as follows:

1. *The Rose-well* (Rosenbadquelle) issues in the yard of *the Rosebath-Hotel;* its temperature is 37,6° R. (116,6° Fahr.) Besides this very abundant well there are other springs in its vicinity which supply the *Comphausbad* (the bath-house of the poor).

2. *The Cornelius-well* issues in the yard of the *Cornelius-bathhouse*, with a temperature of 36,3° R. (113,67° Fahr.); it also supplies the *Charles-bath-house* with mineral water. These splendid bath-houses stand close together; in the latter was formerly a large and richly ornamented bath, which was used by Josephine the first wife of Napoleon I. during her stay at Aix in 1804.

* The temperature of all the hot springs of Aix is according to *Professor von Liebig*'s enquiries (1850). Conf. p. 10.

Besides the above mentioned sources there are in the Comphausbad-street a couple of small springs, which supply a drinking-well for poor people, situated in the Peter-street.

All the sources and bath-houses belong to the municipality of Aix-la-Chapelle; the bath-houses are leased for a certain number of years. The *"Newbath-Hotel"* and the *"Rosebath-Hotel"* are distinguished by modern elegance; but the other bath-houses are also very comfortably accomodated. The bathing-rooms in them all, and the apparatus for douches and hot sulphureous vapour-baths, are excellent: large reservoirs are in each bath-house for cooling the hot mineral water; and single bathing is in constant use.

The *Elise-fountain* (Elisenbrunnen) is generally preferred as the *drinking-well.* This handsome Doric edifice stands in the *Friedrich-Wilhelms-Platz*; its centre is a Rotunda, decorated with a marble bust of the Queen-Dowager of Prussia, *Eliza*, who gave her name to the well; from this Colonnades issue on both sides; behind is a pleasant garden, where a band plays every morning during the season. The water of this fountain is supplied, as stated above, by the Emperor's source, losing on its way about $2^1/_2{}^0$ R. ($5^1/_2{}^0$ Fahr.) of its temperature.

In 1850 *Professor von Liebig* analysed the sulphureous waters of Aix-la-Chapelle; the result of which, according to his own words, will extend the high reputation which they have enjoyed

through centuries. This is the more probable as by *von Liebig's* Analysis it has been proved, that besides the ingredients which the late Dr. *Monheim* had previously detected therein, are Iodine and Bromium, Iron and Potassa. The following is a concise extract from his *Analysis of the Emperor's well;* the small differences between this and the other wells will be hereafter noticed.

According to *von Liebig's Analysis*, 16 oz. or one lb. (= 7680 gr.) of the mineral water of the *Emperor's well* contain:

Not volatile contents:	Grains.
Choride of Sodium	20,2705
Bromide of Sodium	0,0276
Iodide of Sodium	0,0040
Sulphuret of Sodium	0,0729
Carbonate of Soda	4,9950
Sulphate of Soda	2,1712
Sulphate of Potassa	1,1861
Carbonate of Lime	1,2173
Carbonate of Magnesia	0,3952
Carbonate of Strontian	0,0016
Carbonate of Iron	0,0733
Silica	0,5077
Organic substance	0,5773
Carbonate of Manganese	—
Phosphate of Alumina	—
Fluate of Lime	—
Carbonate of Lithia	0,0022
Ammonia	—
Sum of the not volatile Contents	31,5019

As regards the gaseous contents which are developed by boiling in a vacuum, 1000 Cubic-

Centimetres (= 1 Litre) of water contain at 0° and 760 Mm. pressure:

Azote	12,78
Carbonic acid	126,94
Bihydroguret of Carbon	0,52
Sulphuret of Hydrogen	—
Oxygen	1,76
The whole volumen in Cubic-Centimetres	142,00

Gases rising in the water; 100 volumina contain:

Azote	66,98
Carbonic acid	30,89
Bihydroguret of Carbon	1,82
Sulphuret of Hydrogen	0,31
Oxygen	0,00
	100,00

All the other Springs agree with that of the "Emperor"; this latter, however, possesses a higher temperature, and a somewhat larger proportion of solid ingredients.

The waters of Aix-la-Chapelle, as shown by this Analysis, are *sulphureous* and *saline;* when they issue from the source they are clear and their odour is sulphureous; in the process of cooling, their volatile sulphureous principles escape, they become dim, and a white sediment is formed consisting of Sulphur. These waters have a salt-alcaline taste, and a sulphureous smell, which may be likened to that of stale eggs.

ON THE MEDICAL EFFECTS OF THE AIX-LA-CHAPELLE SULPHUREOUS SPRINGS.

These sulphureous springs have preserved their high repute for many centuries, and so long

as they issue from the earth will augment it. Aix-la-Chapelle is not one of those *à la mode* watering-places, which owe their reputation to factitious or occasional means; its springs are recommended by long-proved experience; ranking among the surest remedies in certain very grave maladies, their reputation has spread over the world as much by the numerous patients who have been cured through their extraordinary virtues, as by the medical sanction which is so universally given to them.

We learn from their chemical Analysis, that their combination of Carbonate of Soda and Chloride of Sodium (common salt), of Sulpheret of Sodium and of Sulpheret of Hydrogen, classes them as highly powerful *Alkali-muriatic sulphureous Wells*, and that while competing with the Wells of the Pyrenees in respect to their quantity of sulphur and their high degree of heat, they far surpass these in their saline quantity, approaching therein the Wells of Wiesbaden, Karlsbad and (Switz) Baden.

We now proceed to notice the different methods of using these waters, and the especial effects of these several methods; subjoining a sketch of their general effect.*

1° *On the Water-drinking.* The waters are usually taken at the "Elisenbrunnen", which, as

* The special rules for using the waters will be given in another chapter.

we have stated, is supplied by the Emperor's-Spring; they are also occasionally drank in the bath-houses by those invalids who are unable to visit the common fountain. The water is at first more repugnant by its sulphureous odour, than by its saline taste; the patients readily accustoming themselves to it, and after a while drinking it even with pleasure. Taken in quantities accordant with the individual's digestive power, this water creates an agreeable warmth in the stomach, diffused over the whole frame; it has a sudorific action on the skin, and in most cases after a few days the perspiration acquires a sulphureous odour: the mucous membranes are induced to a more abundant secretion; its action on the kidneys is not only shown by a larger se- and ex-cretion of the urine, but also by the alkaline quality thereof: the effect on the bowels is not always constant, being in some part dependent on the quantity taken of the water, and which, especially at the commencement of the course, is sometimes constipative. In hemorrhoidal cases they sometimes produce sanguineous or mucous excretions. It is according to the rule that by drinking this water the appetite is increased, and that gastric conditions and congestions of certain organs proceed only from its immoderate use, or from mistakes in diet and failure of the digestive powers.

2° *On the use of the Baths.* On the subject of bathing the amounts of common and of alka*line salt* (Carbonate of Soda) in the water are

first to be considered; and then the other solid and gazeous parts. The water acts on the whole surface of the body, and through it on the internal organs, according to the temperature and duration of the bath, the constitution of the patient, and the character of his complaint. In a bath of the usual temperature (between 26° and 29° R. = 90° and 97° Fahr.) the skin will be penetrated by a soft and pleasant warmth inducing perspiration; the movement of the pulse being at first somewhat accelerated, and subsequently abated; the nervous system is tranquillized, and the secretion of the kidneys encreased; this ease and comfort continuing for some time after the bath is taken.*

3° *On the Douche-bath.* Many of the remarkable successes of the Aix-la-Chapelle waters are partly due to their perfect apparatus for douches and vapour-baths, and their method of application: there is perhaps not a watering-place

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* Whether an absorption of the solid ingredients, dissolved in the water, takes place by the skin, is not yet positively established: it is probable that the gazeous parts, being dissolved in the water, penetrate the skin. That water is absorbed in a prolonged bath is almost unquestionably proved. Be this as it may, certain it is, that by bathing the functions of the skin and of the kidneys, and therefore the conditions of the whole system may become changed.

The amount of the solid ingredients, which are contained in a bath (the bath taken at 1000 medic. lbs. of water), is about 4 1/6 lb., viz. 42 oz. of common salt, 10 1/2 oz. of carbonate of Soda, 3 1/4 oz. of Sulphate of Soda, etc.

in Europe which may compete with them. The apparatus for douches is as follows: the sulphureous water is pumped into a large leaden box at about 25 feet height; leaden tubes, ending in an elastic leather-pipe, conduct the water down into the bathing room; the jet being increased or diminished as occasion shall require by a screw at the aperture: on applying a percolator thereto, the jet becomes a shower-bath (*bain d'arrosoir*). The warmth of the water for the douche-bath is determined by the physician's direction. In several bath-houses there are also apparatus for the so called *ascending douche* (*douche ascendante*), which proves often beneficial in indurations of some of the internal organs. In every bath-house are persons called *frotteurs* and *frotteuses* for both sexes; they descend with the patient into the bath in order to regulate the jet of the water, and to rub and knead the parts affected with their hands. These persons, who have great ability and skill, heighten by their manipulations the efficacy of the douche-bath in many of the most inveterate cases.

The douche-bath is a powerful agent; always to be used with moderation, and never without the order of the physician. Its effect is due to its exciting action, which can be modified in some degree by the method of its application; being also dissolvent and softening, it is a great remedy in contractions, stiffness of the joints and *muscles, indurations*, swellings, paralysis etc.

Neuralgic affections often give way to the douche *en arrosoir.*

4° *On the Vapour-bath.* The vapour-baths, which are now to be found in every bath-house, proceed from the natural vapours (a combination of gaseous, saline, and organic parts with steam) of the sulphur-water, which falls in a canal over small stones in order to let the vapour escape very fast. It enters a wooden box, placed above a hole of the canal, with an aperture in its upper part for letting out the head of the patient, who takes his seat in it. The vapour of the upper springs has usually a temperature of 35—37° R. (109½—114° Fahr.) There are also apparatus for local vapour-baths, to be used in several local diseases. After the bath the patient is placed in bed in an adjoining room, in order to promote the perspiration which is produced by the bath.

The vapour-baths take effect principally on the skin, producing local congestion and irritation on its nerves; at the same time the vapour possesses in itself a penetrating and emollient power. As by heating the blood they frequently produce a congestion to the head and palpitation of the heart; persons who are liable to these should never take the vapour-baths without medical advice. Their effect is diaphoretic, emollient and dissolvent, and therefore also derivative from the internal parts. There is also an undoubtedly direct effect of the gaseous parts of the vapour on the

blood through the skin; its resorbent power being heightened by the steam.

These vapour-baths are principally useful in long-standing rheumatic and gouty affections, inveterate skin-diseases, and mercurial and syphilitic maladies.

5º *On the inhalation of the sulphureous vapours.* For this process, which has been recently introduced with success in France and Germany for certain chronic diseases of the chest (neglected catarrhal affections, asthma, diseases of the larynx etc.) the present apparatus at Aix are inadequate; but others will soon be erected on an ample scale (salons for inhaling — salles d'aspiration.) There are, however, few places like Aix for inhaling the sulphureous vapours, considering the abundance of its waters, their heat, and the facility with which the sulphureous principles are detached. With this process arrangements may also be combined for a winter-course, especially for those invalids who suffer in the chest; the benefits derivable in such cases from the always equal and moist atmosphere, produced by the warm vapours of our sources, being generally known.*

From the particular effects of the several methods of employing the sulphureous water of

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* In a memoir ("Denkschrift" 1853) I have explained *at large the great* benefits of this method.

Aix-la-Chapelle, we will now proceed to *the general operation of these waters.* They are, as their chemical analysis has shewn, *sulphureous as well as alkali-muriatic;* acting therefore on the human frame according to this double chemical property. As sulphur waters, they have an especial tendency to the blood of the port-vein (*vena portae*) and to all organs, which are in connection therewith (the abdominal viscera, and principally the liver), partly in altering the composition of the blood, partly in giving it a freer circulation. As alkali-muriatic warm waters, they produce a great effect on the whole nutrition, partly stimulant, partly alterative; they promote all the organic functions, the change of matter, the circulation, the secretions and the absorption, having therefore an alterative effect on the process of assimilation and reproduction. According to this general operation, the Aix waters have a signal efficacy in diseases proceeding from a morbid condition of the humours and the solids of the human body, and in maladies also which proceed from the indolence either of an especial organ, or of the whole system.

The organs whereon the Aix-la-Chapelle waters principally act, are the skin, the mucous membranes of the stomach and the intestines, the kidneys, the system of the port-vein, the lymphatic and the glandular system. As an instance how readily these waters penetrate the whole frame, we may notice their wonderful action in

all those morbid conditions which are brought on by certain metallic poisons. —

Is there likewise a *distinction between the different sources in relation to their effects?* a question very often put to the physician in selecting the bath-house. In a chemical point of view, as already stated, this distinction is so inconsiderable, that the difference in relation to their effect may be accounted equally slight; especially as by reason of the bathing and douching, the water of all the springs will act in the same manner, if it be lowered to the same temperature. The difference as regards the drinking of the water and taking the vapour-baths is more important: for the former, that of the Emperor, being the hottest and most strongly impregnated spring, is commonly used; for the vapour-baths, their temperature must first be considered, and then the portion of Sulphuret of Hydrogen in the springs; the vapours of the upper springs being hotter than those of the lower: choice must then be made according to the constitution of the patient, and the nature of his malady.

Let us now advert to the frequent prejudice, not of patients only but of physicians, against the baths of Aix-la-Chapelle: the opinion especially of those, who have no personal experience of our waters, *that the baths of Aix are in a great measure exciting and heating;* many believing them to be a mere brimstone-pool, and taking their first bath with mistrust and apprehension. It may

have originated in the supposition, that these sulphureous waters contain a great deal more sulphur than they actually do, and that the baths are taken ad the natural temperature of their springs when issuing from the earth. That this idea is utterly unfounded, will soon appear to all who take the baths with caution as regarding temperature, duration etc.: after bathing, they will feel a generally comforting and composing sensation, far from any effervescence or ebullition of the blood, in fact nothing of what their fears had suggested. The nature of these waters and the method of applying them assure this result; for their sulphureous ingredients become greatly softened by their saline, alkaline, and organic particles, while the temperature of the bath is lowered in large reservoirs to the degree most suitable to the case, seldom surpassing that of 28°—29° R., (95°—97° Fahr.) What we have observed upon the bathing applies also to the other methods of using the waters: in respect to the very hot vapour-baths, we refer to the above and the following statements.

These waters seldom produce a violent *Crisis*, but rather operate slowly and gently by augmenting the secretions, especially those of the skin the kidneys and the mucous membranes, and by heigthening the power of absorption. If at the beginning of the course the patient feels himself more or less fatigued and weakened, he will soon acquire freshness and strength by the gradual re-

moval of any morbidity from the system. Such is the effect of the waters of Aix, which have elsewhere been described as "invigorating and tonic." We beg to observe, that, in the direct sense of the term, they are not tonic (as are the Chalybeates) but indirectly and consequentially.

In taking a course of waters there sometimes appears an eruption on the skin (*bath-eruption*), exhibiting small spots and pimples, especially in persons having a delicate skin; these eruptions are but seldom to be regarded as a crisis; they very soon disappear, and are not to be likened to other eruptions, which are very significant of the presence of certain diseases (especially the syphilitic), which have been heretofore concealed and indistinct.

A slightly febrile condition sometimes takes place, before or during the amelioration. After a certain duration of the course some aggravations not unfrequently appear — for instance, of rheumatic and cutaneous affections — an occurrence generally of good augury.

The successional changes after the use of these waters have been observed both by physicians and by patients; and are rightfully ascribed to the *after-effect* of the course. Being principally applied in chronic and deep-rooted diseases, which can only be cured very slowly and by encreasing the various secretions; there can be nothing strange in the theory, that the stimulation of cer*tain organs,* when once commenced, will be for

some time continued under favourable conditions; also when the patient shall have ceased using the Spa. By this after-effect of the course of waters, the system is often restored to its normal condition. (Conf. case 12, 15, 27, 38.)

Whether remedies should still be applied *before* a course of the waters, must depend on the judgment of the physician. In some cases, especially in constipation of the bowels, great excitability of the nervous system, and in plethora, such application will materially promote their success.

While taking these waters *the concurrent use of other medicine*, or of cupping etc., should, for the assurance of their fullest operation, be as limited as possible. This is still more essential, when the patient has previously taken much medicine. In gastric complaints, however, in fevers and other acute disorders which may arise during the course, and in all cases where the waters are taken as auxiliary thereto, this caution is necessarily to be modified.

The resort to other mineral springs at the termination of the Aix-la-Chapelle course — in more concise phrase, the *after-course* — demands especial notice. An unadvised choice might frustrate all the benefit which had been derived from the Aix waters and from the regimen essential to their proper use. In former times, hot wells were generally succeded by some chalybeate Spa, in the hope of renovating the system: now-a-days

our visitors hasten to the sea-side, expecting the like benefit in a salt-water dip. In no wise depreciating the character of other waters we are bound to give our patients this parting admonition — that the change from the waters of Aix to those of other localities, be they chalybeate or marine, should never be made without a full certainty of their adaptation to the patient's individual constitution and immediate condition: as their incautious use would seriously interfere with the crisis of the skin and of the kidneys — a mischief, too great to be incurred for no better motives than variety or fashion! — Supposing, however, their actual necessity, at least two or three weeks ought to elapse, before such changes should be ventured upon. As *Doctor Grandidier* well observes: "The best after-course is the continuation of that regime which accords with the malady, and with the nature of the well." To this excellent advice let us add, that a residence during the close of Autumn and the ensuing Winter in a southern climate after a course of the Aix-la-Chapelle waters, especially for patients whose general abode is in the North, is in a great measure advisable.*

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* For those, whose want of time obliges them to shorten their course of the waters, or who are not able to take them at the place itself, (*in loco*) we recommend a preparation composed by a Chemist of this city, *Mr. Wings*, which is called: "The Aix-la-Chapelle Thermal-salt", as containing the Emperor's spring in soluble combinations. This salt is

We now propose to describe the several complaints, wherein benefit is derived from the waters of Aix-la-Chapelle.

I. CUTANEOUS DISEASES.

The sulphureous waters have long been highly reputed in the treatment of cutaneous diseases. They act not merely as preparatory to the use of other remedies by restoring the skin to its pliant and perspiratory state, and terminating that continual desquamation of the cuticle which is frequently one of the most obstinate symptoms; but also as the sole agent under which all the other symptoms successively disappear.

The Aix-la-Chapelle waters cure or ameliorate the most inveterate forms ef cutaneous disease — often but the manifestation of an especial anomaly of the composition of blood (*Herpetic Diathesis*) and therefore of the nutrition, and not unfrequently in connection with hemorrhoides, irregularities of menstruation, rheumatism and gout, and with mercurial-syphilitic affections. By correcting these, especially by exciting the different secretions, the waters have an important operation on skin-diseases and effect their final removal.

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used principally for baths; when dissolved in water of 40° R. (122° Fahr.) at $^1/_{16}$ of an oz. to 1 lb. of water, it is also suitable for internal use. This composition is undoubtedly the best substitute for the waters of Aix.

We need not discuss the various forms of those diseases, wich are curable by a course of the Aix waters; the most common among them are: *Lepra, Psoriasis, Impetigo, Eczema, Acne, Prurigo* (senilis), *Pityriasis;* lastly *Urticaria, Erysipelas,* and *Scabies,* in their inveterate forms.

It not unfrequently happens that, during the course of waters for some inveterate disease, there appear certain eruptions of the skin; of some of these we have already spoken (p. 20); there are others which assume a critical character; their presence counteracting many morbid conditions of the internal organs (a disordered state, for instance, of those of the digestion), and for which the waters are beneficially taken: frequently such an eruption will remind the patient of some previous skin-disease, neglected or unskilfully treated, and by himself long forgotten.

Many of these eruptions belong to the most obstinate diseases of the human frame, and require for their final cure a repeated course of the waters; some demanding other courses before or after the waters, or the concurrence of certain medicaments. Some will be aggravated during a course of waters, especially in its commencement: — a circumstance which must not alarm the patient, being in general of favourable presage.

Case I.

Scaly Tetter.

A Lady was affected with a most frighful cutaneous disease of the whole body, which appeared in large red patches,

covered with brownish scales: this eruption produced an intolerable itching, and sometimes an acrid fluid discharge. It had for years resisted every remedy. I prescribed the internal and external use of the Aix-la-Chapelle water: "common baths* with cupping, douche-baths on the most affected places, and finally vapour-baths." To my equal gratification and surprise, the Lady got rid of her horrible affection in less than three weeks. *C. G. Th. Kortum.*

Case II.

Herpetic Eruption of the face.

A Lady, 30 years of age, of a tolerably good constitution, had in consequence of a cold caught after dancing, been two years affected with an herpetic eruption of the skin, on the face especially. — She had tried the remedies most strongly recommended for such affections at Paris, but to no purpose; and then resorted to the waters of Aix. — I prescribed these waters internally and the common baths every day. A fortnight afterwards she complained of a burning and itching sensation in the face, especially in her eyes, which became slightly inflamed. I now discontinued the waters for some days and ordered Seidlitz-water and cupping on the neck, the arms, and between the shoulders. In a few days I found her much relieved. After continuing the course of waters for three weeks, I directed the vapour-baths; after which the hideous scales of the nose the forehead and the chin began to fall off, and the skin shewed a healthy though still spotted surface. Eight days afterwards she left us in much content and comfort. Subsequently I learned her complete recovery. *G. Reumont.*

Case III.

Herpetic and excessively itching eruption.

A Gentleman, aged 39 years, of a strong constitution, and sanguine temperament, had an hereditary disposition to diseases of the skin, and in his 30th year, after having fre-

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* By *common bath* we always mean a bath of the sulphureous water in distinction from douche- and vapour-bath.

quently travelled in the north of Europe and led during that time an irregular life, became affected with an herpetic eruption on different parts of his body, especially in his arms and legs. He assured me that he had never suffered from any syphilitic affection. To get rid of this troublesome malady, he had resorted to various remedies, but without success. The itching was so incessant, that he could hardly sleep. — I found him very thin, without appetite, having a foul tongue and other symptoms of an anomalous condition of the organs of digestion. Mild purgatives for several days commenced our treatment, followed by the use of the Aix waters in all their forms. After eight days I ordered cupping of the parts most affected, then rest for some days, and repeated the use of the baths, the internal use of the waters not having been suspended. Every fifth day the vapour-bath was used, and the cupping repeated at about the termination of a month.

The patient became much stronger, the itching abated, and his sleep returned. After a course of two months, he left Aix nearly cured. *G. Reumont.*

Case IV.

Scaly Tetter. (Eczema Impetiginodes.)

A German Lady, 52 years of age, had been many years affected with often recurrent irritation of the mucous membranes, especially those of the chest and the intestines, which showed themselves as Catarrhal affections and Diarrheas. These having been considerably mitigated, there appeared a year ago* an eruption on different parts of the body, especially on the pudenda, which discharged a serous fluid with much itching and burning; afterwards, a pustulous affection appeared thereon, and also on the head. Many internal and external remedies had been unsuccessfully applied to this obstinate and tormenting affection; among them artificial sulphur-

* Viz. from the beginning of the course of waters. In nearly all the subsequent cases the time is given as after this period.

baths (Eau de Barèges artificielle), mercury and arsenic; at last, the patient was sent to Aix-la-Chapelle.

The eruption was of that species, which is called "Eczema Impetiginodes": the skin, where in it had the seat, was red and tumified, and for the most part covered with yellow, cracked scurfs; on some parts there appeared new vesicles, and here and there pustules; the unhappy patient enjoyed not a moments relief from the intolerable itching and excoriations of the skin, which produced much weakness and nervousness; she had lost flesh and the appetite was much diminished.

After her diet had been regulated, she began with drinking the sulphur-water and taking tepid common baths, to which was added some amylum (starch) for mitigating the excessive irritation of the eruption. After a course of three weeks the redness and the discharge of the skin were somewhat diminished, but not the itching. — Continuing the course of water as heretofore, the affected parts were now rubbed with an ointment composed of Juniper-tar-oil, and washed off the next day in the bath. Under this course the eruption visibly abated, the itching being especially relieved, and after three weeks both nearly disappeared. At the same time, however, a somewhat violent diarrhea appeared, which lasted for some days, but without any bad consequence.

After a ten weeks course of waters, she was entirely cured of her troublesome and tormenting malady. — According to the information which I subsequently received, the eruption did not reappear; but the Lady suffered again from catarrhal affections. *A. Reumont.*

To the cutaneous diseases we join *the external Ulcers,* chiefly those of an atonic character, in which the waters are of great efficacy, and *the local immoderate sweating,* especially of the feet, the suppression of which is often highly injurious. It will be seen by the 6th and 7th cases, that the baths, especially the vapour-baths, present

a powerful diaphoretic, relieving all the ailings, which had been engendered by the suppression of the perspiration.

Case V.

Ulcers.

An officer in the Hanoverian service had been severely wounded at the battle of Fontenay, particularly in the arm and shoulder, which, from his being of a very bad constitution, brought on a fever, and, having been but imperfectly cured, terminated in an abscess in his side; his wounds likewise became after the fever like so many ichorous ulcers. He was extremely weak and emaciated, and had a low remitting fever; his wounds as well as the abscess continued to discharge a fetid, ichorous humour. In this deplorable state the physicians and surgeons at the Hospital having abandoned his case, he was sent to Aix, where he began with bathing in the water of the great source (Emperor's source). At the same time he drank the water of the Pouhon spring (Spa); the effects of which were surprising: the matter of the discharges from his wounds, and from his abscess, was soon observed to improve; the fever disappeared, and he seemed rapidly gathering strength. At the end of three weeks his wounds and abscess discharged good matter, but a quantity of loose flesh grew up continually therein, which prevented them from healing. It was therefore judged necessary to omit the Pouhon water for some time, and to continue his bathings. At the end of ten weeks both wounds and abscess were perfectly cured. He was then ordered to drink the Pouhon water again, and to use gentle exercise on horseback. By this process he was restored to his former health and vigour. *J. Williams.**

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* *J. Williams*, M. D., was an english physician, who resided and practised in the last century at Aix, and wrote a Treatise on the medic. *virtues of its Waters.* (London 1772.)

Case VI and VII.

Violent head ache after the suppression of habitual perspiration of the feet.

A Gentleman, otherwise in good health, was subject to perspiration of the feet, though in no other parts of his body. The annoyance was stopped by the local application of some external remedies; but not without injury to his general health. He was soon afflicted with head-aches, so violent as to disable him from all exertion. In this distress, he consulted several physicians, who prescribed their several remedies, but all without effect. At last he was advised to try the Aix waters, for the purpose of bringing back the perspiration of his feet. Local vapour-baths were accordingly used, but entirely failed in their object: *general* vapour-baths were then tried, the head-aches abated day by day, till they entirely ceased: the perspirations in the feet did not return, but took place abundantly enough in the armpits, and the patient was wholly relieved. *Veling.*

A merchant, 36 years of age, who had from his infancy laboured under a pedal perspiration, which was cured by some Empiric in consequence of certain external applications, was afflicted with violent head-aches during three years, with the sensation of constantly wearing a heavy leaden skull-cap. In the beginning of the course the patient, who suffered also from costiveness and want of appetite, was at first ordered the Seidlitz water, then hip-baths and douches on his feet, which were always dry and cool, and after a fortnight local vapour-baths. After the sixth vapour-bath the patient perceived a diminution of his severe pains; and after a five weeks farther course of the waters, his headache was entirely removed, and the pedal perspiration, but in a mitigated degree, brought back. *G. Reumont.*

II. RHEUMATIC AFFECTIONS.

Among the various maladies which have been benefited by the Aix-la-Chapelle waters, Rheu-

matism holds a prominent place; it is in its *chronic stages* that patients, those especially who are of a phlegmatic temperament or of a lymphatic-nervous habit, should visit this well. In his very able treatise on Rheumatism Doctor *H. W. Fuller* speaks of Aix-la-Chapelle and of Barèges: "The two places are peculiarly adapted for persons of a feeble circulation, who are invigorated by warmth, and suffer greatly from the effects of cold."

The several varieties of Chronic Rheumatism in which these waters are most beneficial, are chiefly, the rheumatic affections of the muscles (e. g. Lumbago), of the joints — rheumatic gout — (as rigidities, swelling, stiffness of the joints) of various internal organs (e. g. the intestines, the womb, the bladder etc.), of the sheaths of the nerves — neuralgic Rheumatism — (e. g. Sciatica) finally the rheumatic Paralysis. There are still other rheumatic affections which are treated often successfully with these waters, viz. the gonorrhoic rheumatism (Rheumatismus gonorrhoicus), chiefly an affection of the knee, the foot-joints, and the wrist.

For *rheumatic pains*, so far from their disappearing in the beginning of the course, they often show themselves in a more violent way, or appear on places, which have for some time been free from them: these are in my experience favorable symptoms. Where there are any suspicions *of the* disease being connected with a syphilitic

taint, another course must be entered upon, of which we shall speak hereafter.

Though every method of applying the waters will be adopted against these affections, *the douche* is their remedy *par excellence* especially in stiffness and swellings of the joints, and in cases of rheumatic Paralysis.

Case VIII.

Very painful Muscular Rheumatism.

A young Lady of this country, aged 26 years had, by taking cold, contracted a rheumatic pain so violent, and accompanied with such a rigidity of the muscles in the arms, shoulders and along the upper portion of the back, that she had very little sensation in these parts, and constantly appeared as if her head and shoulders were enclosed in iron bars. In this condition she was brought to Aix, and advised to take a course of the water of the great source. She commenced with drinking from this, and with common bathing at the Queen of Hungary's Bath; afterwards she received the douche, and was well rubbed with the English flesh-brush. In about six weeks, without the use of any other medicine, she was perfectly cured. *Williams.*

Case IX.

Rheumatism complicated with piles; insensibility and weakness of the lower parts.

A Major, 40 years of age, of a strong and durable frame, but with very excitable nerves, after many fatigues during the last war and having suffered several times from a rheumatic fever, complained since a year of painful rheumatic affections in several parts of his body. The rheumatism at last settled in the lower parts, in which he suffered at the beginning very much from violent pain, but afterwards from insensibility and weakness. His ailing was complicated with very painful piles. The patient, on his arrival suf-

fering from constipation, was ordered to drink duringe sveral days the Seidlitz water, and to have the piles, which were gorged with blood, emptied by leeches. After this he began to take common baths of 26° R. (91° Fahr.), the waters internally, and douches on the whole back-bone and the lower parts. After a course of six weeks he perceived a notable amelioration as to the piles; but the insensibility, and the weakness of the lower parts, were still unrelieved. The douche was then applied to these parts with double force, and he was cupped thrice in the course of three weeks on the thighs, the legs, and the lower part of the back. A fortnight afterwards (during which time the drinking, bathing and douching were continued) sensibility and strength returned, though but slowly. Subsequently he took several vapour-baths, and left Aix quite healed. *G. Reumont.*

Case X.

Difficult menstruation from rheumatic cause.

A young Lady of a strong constitution had menstruated since her 15th year of age, but always with some difficulty. While expecting her menstruation, she took a cold on returning home overheated from a ball during a cool night, and consequently suffered very severe pains. From this time she had at every menstruation violent cramps with deliria and convulsions. The remedies applied were without any permanent effect. On the presumption of a rheumatic affection of the uterine system, she began drinking and bathing at Aix; and ten days before her expected menstruation she was douched on the lower part of the back and on the loins, and had also enemas of the mineral water. The succeding menstruation was less painful and without delirium, but accompanied by some nervous attack. Continuing the same course during her two next menstruations, she then quitted our waters perfectly cured. *G. Reumont.*

Case XI.

Sciatica (neuralgic Rheumatism).

A Lady, 38 years of age, of a healthy constitution, after catching a heavy cold was seized with severe pains in the

right hip-joint. In a short time the whole leg was so palsied, that she was unable without great difficulty to drag herself along her room from one chair to another. After having applied various remedies without effect, she visited Aix. She had suffered extreme pain, and passed the night for the most part without sleep; the right thigh was much affected, and had become very wasted. She was directed for the first 5 days to take the baths only, at 26° R. (91° Fahr.) for half an hour, then to rest for some days, and afterwards to have the whole limb douched. Three weeks thus passed, but the pains in the joint were still excruciating. She was then ordered to be cupped on the part affected, and to suspend the course for some days. From the beginning she had drank of the well abundantly. After cupping, the pains considerably subsided, and the course was resumed, with the addition of four vapour-baths, untill the end of the sixth week. Nothing was hereby attained but a diminution of the pains. A fortnight after the Lady had left Aix, a great amelioration took place, which, without any other remedy being applied, terminated in her complete and permanent recovery.

G. Reumont.

Case XII.

Rheumatic gaut; incomplete Paralysis.

A Dutchman, aged 54 years, originally of a healthy and robust constitution, had been many years afflicted with rheumatic gout, principally in the knee-joints and hip; occasioning constant pains in the stiff and swollen joints, especially during the night: his lower parts were therefore as if palsied. The affection had long been neglected, then ineffectually treated with different remedies, and finally pronounced incurable: the patient, however, resolved as a last trial to take the sulphureous waters. He arrived at Borcette in the summer of 1823, and began to use its waters under all forms; during this course he was ordered to be cupped three or four times on the affected joints. In the last week of his abode at Borcette he imagined himself somewhat better; and

on his departure I advised him to await the after-effect of his course of the waters. Their success was communicated in a letter dated in the succeeding February, telling me that he was now able not only to attend to his affairs, but also to take walks of half an hour; that he had not made use of any other remedy since he left Borcette, and that he attributed his recovery from the severe rheumatic affection, under which he had suffered more than 17 years, to the Borcette springs. In a subsequent letter he mentioned his entire recovery and permanently established health. *G. Reumont.*

Case XIII.

Rheumatic Paralysis (Hemiplegia).

A Belgian Gentleman, aged 36 years, of a tolerably good constitution, had for some time suffered from chronic rheumatic affections; and having, while in an overheated state, exposed himself to a considerable cold, was instantaneously stricken with palsy in his right side (Hemiplegia). Since that time he felt no more pain in the other parts of his body; the tongue had been not quite free from the paralytic injury, but after a few days he was able to speak again. Different remedies (among them electricity) having been unsuccessfully tried, he made up his mind to a course of the waters of Aix. When I first saw him, he moved with difficulty from one chair to another, and was unable to write a line. He was ordered to take hip-baths, and especially the douche on the back and the palsied extremities. The tenth douche enabled him to move his fingers and to write a few lines. After some days repose the course was resumed in the same manner, and at the end of a fortnight the return of vital power to the paralysed limbs became every day more and more perceptible. At the close of the fifth week he left Aix entirely recovered, having before his departure written a long and legible letter to his family. *G. Reumont.*

III. MORBID AFFECTIONS

taking their origin chiefly in the system of the Port-vein (gout, tendency to the formation of Gravel, enlargement of the Liver and Spleen, Hemorrhoides).

We have already, (p. 17) directed our readers attention to that tendency which the sulphureous waters in general have to the port-vein and to those several organs which are in connection therewith — chiefly the liver and the spleen — by purifying the blood and producing its freer circulation. The waters of Aix-la-Chapelle must therefore be of signal use in all diseases chiefly originating from disturbances in the above named System. Those disturbances, though often found in connection together, differ greatly one from the other; and are chiefly *the Gout* (or the uric acid Diathesis of the blood), *the enlargement* (hypertrophy) *of the Liver and Spleen*, and the *Hemorrhoides* (piles).

In these it is essential to the success of a course of the waters, that the patient should implicitly submit to the regimen prescribed by his physician. Herein the drinking of the waters is the chief requisite; though bathing and douching are highly important.

In regard to *Gout*, a course of the Aix waters will be serviceable, when it has degenerated into the chronic form; and in the stiffness and rigidity of the joints and ligaments, continuing long after the cessation of inflammatory action and bringing on a paralytic condition (incomplete Paralysis) of the limbs. Doctor *Garrod*, a recent and

eminent English writer on gout, states, "that Aix-la-Chapelle is chiefly proper for those gouty subjects, whose skin is rough and dry; and for those cases, where weakness and stiffness of the joints are in a high degree connected." Moreover, where the gout has been by some cause removed from its original seat to other organs (the retrocedent gout), which will be differently affected (as neuralgic and asthmatic affections etc.), and the primitive disease seems to have subsided, a course of these waters will be of great benefit. In such cases it has sometimes occurred, that a gouty attack comes on during the course, bringing with it much relief to the secondary affections.

There are cases of a disposition to gout (for the most part *hereditary*), where no regular attack has taken place. It shows itself by several symptoms chiefly abdominal, viz. cramp or acidity of the stomach, flatulence, dyspepsia, colic, depression of the spirits etc.; or the gouty affection alternates with hemorrhoides and certain eruptions of the skin (Psoriasis, Eczema, Acne): in all these cases the waters will be of signal use.

Case XIV.

Gouty swelling of the right wrist.

A Gentleman, in his 30th year, hereditarily of a gouty disposition, had frequent attacks in his hand and elbow, followed by a painful swelling which rendered the hand utterly useless. — A partial relief having been obtained by the common baths, his wrist and arm were douched, and subjected *to the local* vapour-bath. Three weeks where thus employed,

when he felt gouty pains, not in the arm only, but in different parts of his body: the swelling of the hand was however much reduced; so that in a few days he could stretch and bend the fingers without much pain. Another three weeks of bathing and douching, followed by a similar course of the vapour-bath, sent him home perfectly cured. *G. Reumont.*

Case XV.

Gouty Paralysis of the hands.

A Dutch lawyer, aged 40 years, who had long suffered from irregular atonic gout, had gradually lost, while the fingers became more and more contracted, the power of his hands. After a medical treatment of ten days, directed against the weakened constitution of the patient, he began to take hip-baths, and at the same time the douche with gentle friction of the wrists and the whole back, and drinking the water. After twenty days of this course, he felt himself much better, both in respect to his general power and to his hands; being able to extend the fingers, though with some difficulty. After four weeks he left Aix in a perceptibly better condition, and promised to return in the ensuing summer for the completion of his cure. But the after-effect of the waters, which occurs so often, dispensed with this second course; at the close of the following winter he apprized us of his perfect recovery, which had taken place shortly after he left Aix-la-Chapelle, without the necessity of any further medical treatment. *G. Reumont.*

Case XVI.

Obstinate Colic (gouty affection of the intestines).

A Lady, aged 40 years, the mother of six healthy children, but sometimes suffering from gouty affections, was, after taking a cold, almost instantaneously attacked with a violent colic, which in spite of different remedies grew continually more painful. She appeared yellowish and pale, had a dry skin and a hard pulse; suffering from constipation and for some hours daily from colic, especially during the process of

always difficult digestion. The lower parts were attacked with incomplete palsy. This very severe ailment seemed founded on a gouty affection of the intestines. A fortnights' course of drinking the water, bathing, gentle douching of the back and enemas of mineral water produced great relief: the complexion became brighter, the digestion less difficult, the skin softer, her walking easier, and the colic perceptibly diminished in intensity and duration. This course was further continued for four weeks, after which the was entirely recovered.

G. Reumont.

Case XVII.

Inveterate Leucorrhœa (whites), connected with gouty Ishias.

A Lady, aged 32 years, had suffered many years from Leucorrhœa, and at the same time from pains in both hips, which were sometimes greatly aggravated. Having closely examined this case, I came to the conclusion that the ailment was of a gouty origin; its history and the alternation of the two morbid affections, assisted my opinion, which was finally justified by the beneficial effect of the waters. Bathing, douching on the inferior part of the back and both the hip-joints, the internal use and also injections of the sulphureous water into the vagina effected in three weeks a remission of the gouty pains and likewise of the discharge. This treatment was continued till the end of the second month (with an interruption of ten days), when the patient left Aix entirely cured: later information confirmed the success of the course.

G. Reumont.

It is a fact, that the gouty Diathesis is connected with the formation of *gravel* and *stone*. Though the Aix-la-Chapelle waters cannot dissolve the calculi, their alkaline quality impedes the formation of gravel, the passing whereof with the urine during a course of these waters is by *no means* unusual. In the *Catarrh of the Bladder*,

often connected with gravelly complaints, these waters are also highly beneficial.

Case XVIII.

Gouty affection of the urinary passages.

A Russian Gentleman, aged 46 years, who had previously experienced several gouty attacks, but from which he was then free, passed with the urine, more or less painfully, a considerable quantity of a red sandy matter, which I ascertained to be nearly pure uric acid. Two days before his arrival at Aix, he had passed with extreme pain sanguino-mucous urine. The patient suffered still under the last mentioned ailing; his pulse was hard and full, his face reddened, the region of the bladder tightened and to the touch very painful. Phlebotomy, tepid hip-baths of common water, enemas of an infusion of Hemp etc. appeased these symptoms. — Several days afterwards he commenced drinking the sulphureous water, beginning with 20, and encreasing to 60 oz. daily; taking also the common baths, and the douche on the region of the kidneys, which had for some days previously been the chief seat of the pains. After four weeks a perceptible remission of all the symptoms took place; another three weeks passed, and I directed him to take some vapour-baths, when I had the pleasure of seeing him return home in a healthy state.

G. Reumont.

Case XIX.

Gravel.

An elderly English Gentleman, who, 15 years before his death, was greatly afflicted with most acute nephritic pains, which rendered his life a burden to him: after trying every kind of medicine prescribed in such cases by the English physicians, he entered upon a course of the Aix-la-Chapelle water of the great source internally, and, at the same time, used the common bathing, twice, and sometimes thrice a week, during the season: the consequence was, that he was very soon eased of his violent pains, and passed a great deal of *gravel*, with some small stones, by urine: when the disorder returned, he was constantly eased by the same

course. Even in the latter years of his life, when the powers of nature were much weakened, and when his pains became more acute, he always found immediate ease when he used the Aix waters. *Williams.*

Long and large experience has proved the good effect of the Aix-la-Chapelle waters in *affections of the Liver* and *Spleen*, and in those morbid conditions which are often dependent thereon (*inveterate jaundice, longprotracted agues, gallstones, asthmatic affections etc.*). In bygone times, the Aix waters were much approved for these complaints; subsequently, other waters came to be preferred, though the former are especially to be recommended in *the simple enlargement of the liver and spleen* which is produced by passive congestion, and in its consequences. On some other affections of the liver we shall speak here after in the last section. The following cases will prove it.

Case XX.
Obstruction of the liver (Jaundice).

A German Physician, nearly 60 years of age, being naturally of a tender and delicate constitution, and of sedentary habits, had contracted a great viscidity of the blood and humours, and subsequently obstructions in all the capillary vessels, as well as in the liver and mesentery. Anasarcous swellings were formed in various parts of his body, which became bloated and of a pale yellow colour; he had great difficulty of breathing, a swollen and constipated belly, and such a degree of weakness, that he was scarcely able to walk. In this apparently hopeless condition, he came to Aix and began to drink the water of the great source: at first taking only four glasses daily, and gradually encreasing to eight; at the same time bathing thrice a week at the Emperor's Bath. — The water kept his body open, and sometimes purged

him twice a day; but its greatest operation was by perspiration and urine. After continuing this course for three weeks, he found himself considerably relieved: the disappearance of the above symptoms leads to the conclusion, that the obstructions of the liver and of the mesentery had, in some measure at least, become dissolved. He was now ordered to drink the sulphureous water for about a week longer, without bathing in any form; afterwards to drink the Pouhon water, and every second or third day to take the vapour-bath. Having continued this course for four weeks, the jaundice anasarcous swellings, and obstructions in the viscera, were entirely removed. Afterwards, by using the stronger chalybeates with the Peruvian bark, to brace up his relaxed constitution, he was restored to his former health. *Williams.*

Case XXI.

Enlargement (hypertrophy) of the liver.

A Scotchman, aged 38 years, naturally of a good constitution, had contracted in the West Indies an inflammation of the liver, which was partially cured by bleeding and calomel: retaining however an enlargement of that organ, accompanied with a dull pain and difficulty of breathing. The patient was of a pale and livid complexion, with dim and yellowish eyes; the region of the liver was visibly enlarged, tender to the touch; the evacuations were little, and the urine highcoloured; the digestion difficult. The course consisted of drinking the water in an encreasing, and then in a high dose; followed by hip-baths and douches with gentle frictions on the region of the liver. Five weeks afterwards a visible abatement of all the morbid symptoms took place, especially a favourable alteration in the region of the liver. This course was continued for a month, when the patient left Aix quite cured. *G. Reumont.*

Case XXII.

Enlargement of the liver, inveterate jaundice, gallstones.

A Lady, aged 57 years, of feeble and nervous constitution, had for some years since the period of menstruation

frequently suffered from the jaundice, which seemed to be of a spasmodic kind, and always very soon gave way. But after having undergone for some time many crosses and afflictions, she had a violent attack of jaundice, accompanied with pain and distention of the region of the liver. This affection was obstinate, but only yielded in the course of two months: subsequently, however, some new vexations occurred to her, and a severe cold brought on a relapse, preceded by violent nervous attacks, under which she lost consciousness. She was then, as a last resource, sent to the Aix waters. — When I first saw her, she was complaining of a permanent dull pain in the much distended region of the liver; her jaundiced and cachectic complexion, frequent inclination to vomiting, and occasional aggravation of the pain, led to the inference of gallstones. The course which I prescribed consisted of drinking the water in an encreasing and finally in a high dose, in common baths and the douche "*en arrosoir*" on the region of the liver. After six weeks an evident amelioration took place. The evacuations being regularly examined, one day a gall-stone was found therein of a round form and weighing 25 grains. The above mentioned course was continued during six weeks longer, after which the patient got quite well. *G. Reumont.*

Case XXIII.

Quartan intermittent fever (ague).

A man of 40 years had suffered from the quartan ague for four months, until he resorted to Aix. His complexion was of a yellow hue, his feet somewhat swollen, and he had a constant diarrhea. I advised him to drink the sulphureous waters: from that time the fever and ague abated, and at last entirely ceased. After a few weeks the diarrhea also ceased; and the patient left Aix-la-Chapelle quite cured. *Veling.*

The Aix-la-Chapelle waters are greatly beneficial in the *Piles* (*Hemorrhoides*), principally when *they* require regular and frequent evacuations of

blood. If such evacuations are by any cause interrupted, very troublesome and possibly dangerous affections of different organs will ensue. In other instances when the hemorrhoidal discharges have ceased, eruptions of the skin (Eczema, Prurigo, Acne), will take place. All these affections are successfully treated by the Aix waters, which often effect a return of the discharge with great relief to the patient. The drinking of the sulphureous water is one of the most essential points of the course.

Case XXIV.

Consequences of the stoppage of the hemorrhoidal discharge.

A Russian Gentleman, aged 42 years, of a strong constitution and a dark yellow complexion, had many years suffered under an hemorrhoidal complaint, generally very painful, and with occasional discharges, but which had ceased for more than a twelvemonth. The patient having been unable to attend to this irregularity during the late war (1814), the pain was much aggravated; constipation ensued, and considerable congestions in the head. — On his arrival at Aix, he complained of painful tenesmus, constipation, head-ache etc. After some preliminary remedies (leeches, Seidlitz water etc.) he began to take hip-baths, and to drink the water in an encreasing dose. Having with his rigid fibre a dry skin, the douche was ordered with frictions on the whole surface of his body. The application of leeches was repeated, and the Seidlitz water was occasionally substituted for that of Aix. After a course of six weeks, the patient was freed from his complaint.

G. Reumont.

Case XXV.

Inveterate hemorrhoidal complaint.

A French Gentleman, aged 50 years, long resident in St. Petersburgh and leading there a very fatiguing life, had

many years laboured under abdominal plethora, and in consequence thereof under an anomalous hemorrhoidal complaint. This gentleman — a true type of the atrabilarian constitution — was of a yellow complexion; both the eyes were in a state of constant irritation, the skin dry, the abdomen distended and tense, the tongue whitish covered, the appetite small, the bowels usually constipated, the mind always depressed and gloomy. He complained of very heavy pain especially in the lower part of his back; notwithstanding the hemorrhoidal tumours, there had never been any sanguineous discharge. — The patient began with drinking the water in gradually encreasing doses, and bathing. After drinking the water for some days, he felt a comfort not for a long time experienced. He was then ordered to use the douche on the lower part of his back. Immediately after his first douche he had a very copious evacuation, of a blackish colour, producing a great relief to his whole condition. In continuing the baths, the drinking of the water, and the douches, a great amelioration took place, especially an abatement of the pain; and the bowels were regularly opened. Upon the fourteenth day of the course, an aggravation of the pain occurred: the douche was then applied, when an extraordinarily copious evacuation, mixed with mucosities and blood, ensued, almost instantaneously followed by a great diminution of the pain. From that time the patient continued to have bilious and mucous stools, which were sometimes preceeded by congestions in the occiput. After a course of five weeks, he left Aix in a decidedly ameliorated condition. According to a later report the bilious excretions still continued for a time, followed by a complete recovery and the enjoyment of extraordinarily good health. The next summer he revisited Aix in a healthy condition, and took a second course of its waters for surety's sake against any return of his old ailments. *A. Reumont.*

IV. THE CONSEQUENCES OF WOUNDS, FRACTURES, DISLOCATIONS, SPRAINS etc.

I can find no better language, wherein to describe and explain the great effect of the waters of Aix-la-Chapelle in those cases, than that of *Doctor Williams*, the English practitioner whom I have already cited. (V. p. 28.)

"These waters are likewise found to be particularly beneficial in those *contractions of the nerves* and *tendons* and of the *muscles* and that *paralytic rigidity* and *want* of *motion*, which affect different parts of the body, from *gunshot*, and other *wounds*; from *great colds* taken; and from *particular accidents*. During the last war between the French and the Hanoverians, the former were in a manner in possession of this city and of the baths; and, having established one of their grand hospitals here, found in these waters a remedy which re-established more of their sick and wounded than all the medicines which their physicians and surgeons prescribed. After the battle of Crefeld (23[d] of June 1758), wherein they had a greater number of wounded than in any other battle during the war, some hundreds of those patients, who, after their wounds were cured, remained *with contracted limbs*, *with want of motion*, and *paralytic numbness* in different parts of the body, and who would otherwise, in all probability, have so remained during the whole course of their lives, were by these waters entirely re-established. It is easy to conceive, that

when the nerves or tendons of a part are torn or lacerated by wounds, and the body afterwards suffered to lie upon the cold earth, without any motion, for twelve hours (as is generally the case after great battles), a stiffness and rigidity, not only of the wounded parts, but even of the whole body, must ensue; which, though the wounds themselves are cured, will baffle the whole art of medicine and render the patient miserable for life. In all such cases the waters of Aix-la-Chapelle, internally and externally applied, will generally give relief, especially when they are ocassionally seconded by some corroborating and tonic medicines." —

After *fractures of the bones*, especially in the vicinity of the joints, as well as after *dislocations* and *sprains*, there remain very often swellings, stiffness and immobility of the injured limbs and joints: these are also treated with great success by a course of the Aix waters, especially by the douche and the local vapour-bath. During the thermal treatment, especially in taking the douches, it results sometimes that bone-splinters, balls etc. will be discharged, benefitting the whole condition of the patient.

Case XXVI.

Insensibility and want of motion of the leg, produced by a cannonshot-wound.

A lieutenant colonel in the French service had the fleshy part of his leg almost totally carried off by a can*non ball, and the* nerves and tendons greatly lacerated. As

neither of the bones were broken, the wound, though attended with such a loss of substance, was cured in a very short time, considering its nature and magnitude; but a coldness and insensibility of the lower part of the leg and foot remained, with inability of motion. Various warming and stimulating medicines were applied, but without success; and at length it was determined that he should try the sulphureous waters of Aix. He began their use by bathing at the Rose bath, but obtained not any relief: he then tooke the vapour-bath with the water of the great source, whereby he soon found a favourable change: and by taking this bath and receiving the vapour only upon the parts affected, for ten weeks, he was cured of the insensibility and want of motion, and, what was very singular, the leg and foot, except where there was a loss of substance, were brought to the size and plumpness of the others. *Williams.*

Case XXVII.

Stiffness (Anchylosis) of the knee-joint, in consequence of different purulent accumulations after a fracture of the thigh.

A military man, aged 28 years, of a healthy constitution, had by the kick of a horse a longitudinal fracture of the lower part of the left thigh with a loosening of the condyles. On the fifteenth day after the accident the bandage was removed: the callus seemed to be consolidated, but eight days afterwards, an abscess was found in the region of the knee, which though properly treated, ended with stiffness (anchylosis) of the knee. Various modes of treatment having failed, the left knee being nearly quite motionless, the sufferer came to try the waters of Aix-la-Chapelle. After the application of the douche on the injured joint for twenty five days, it was gently kneaded and cautiously moved; when the patient having also taken ten local vapour-baths, was enabled to stretch the knee a little, and with the aid of a stick to move up and down his chamber. At the close of the third month he left Aix; the natural powers of the knee being at least half restored. According to later information the condition of his knee had been still further improved. G. Reumont.

Case XXVIII.

Stiffness (Anchylosis) of both the knee-joints, in consequence of gunshot-wounds.

A military man, aged 40 years, received several gunshot-wounds through both the thighs in the vicinity of the knee-joints: after the healing of these, the knees remained stiff and bent. It was with difficulty that he moved about on crutches; and he suffered from rheumatic pain in both the joints, especially during the night. — After taking thirty baths with douches and four local vapour-baths, the knees became less bent and the pain was gone; after some additional common- and vapour-baths, a visible change took place in the joints; and after some days he laid aside one of his crutches, which was soon followed by the other; and he then quitted Aix entirely cured. *G. Reumont.*

Case XXIX.

Incomplete Palsy (Paresis) of the upper extremities, in consequence of several wounds.

A General officer had received a gunshot wound, which fractured the upper rib on his left side, and contused his collar-bone. Exfoliation supervened; and after the wound had been healed, there remained a severe pain in the corresponding shoulder, with inability to move the left arm. Some months afterwards a canister-shot so violently contused his right shoulder-joint, that the corresponding arm was for two months paralyzed. The left shoulder-joint, not yet completely healed, was again attacked by this new shock. The upper parts both right and left were in a palsied condition; he was now unable without great pain and febrile attacks, to endure motion on horse-back. He came to Aix, where during six weeks he took the common baths and the douches on the affected parts with perfect success: after ten days course he moved his arms with more ease; in another fortnight he was able to ride on horse-back two hours without the slightest pain. The repetition of the course in the next *season completed* his recovery. *G. Reumont.*

Case XXX.

Paralysis of the right arm, in consequence of a dislocation.

An Officer had by a fall from his horse dislocated the right shoulder-joint downward: the attempt to reduce the dislocation failed, and by the pressure of the head of the bone on the nerves, Paralysis of the arm ensued, which was not removed after the reduction had been effected. Four months after the accident he resorted to Aix. After a fortnight's application of the douche on the collar-bone with frictions effected not any change. After an interval of several days the same course was resumed for another fortnight, when the patient suddenly perceived in the palsied arm a feeling of *formication*. From this time the arm became stronger; and after a further three weeks course he was able to move it. The bath and another fifteen douches having enabled him to make use of his arm, he returned home; whence he informed me by letter that its use was entirely restored.

G. Reumont.

Case XXXI.

Compound fracture.

A French engineer, after the fracture of his leg, which had been set in Paris, found himself unable to make use of the limb. During a course of the waters at Aix (douches?) an abscess formed itself in the vicinity of the healed fracture, which broke up, and discharged a large bone-splinter. Soon afterwards the patient had again the use of his leg. *Veling.*

Case XXXII.

Considerable stiffness and swelling of the foot-joint after a dislocation.

A German merchant, aged 35 years, of a peculiarly robust constitution, five months ago dislocated his right foot-joint by a fall on the frozen ground. Notwithstanding surgical treatment the injured joint remained quite stiff and swollen, so that the patient was obliged to move on crutches; afterwards he was able to limp about by the aid of a stick, but with considerable pain. After trying several external remedies, he had recourse to the Aix waters: the injured

joint was much swollen and nearly quite stiff by consolidated exsudations in its ligamental apparatus; and extremely painful on pressure or motion: it was only with difficulty that he could limp along a few steps. — The patient being, as we stated above, of an exceedingly strong constitution and otherwise in very good health, he was able to go through a very fatiguing course of the waters, in order to bring the exudations as quick as possible to re-sorption. After some common baths he was ordered to take every day the douche with frictions on the part affected, and after some days, to heighten the re-sorption, immediately before the douche a local vapour-bath. This course was continued for six weeks without interruption, and was followed by the greatest success: the stiffness and swelling were quite gone, and the normal mobility of the joint was so far restored, as to allow him to take long walks without any pain or difficulty, or even the help of a stick. Four months after having quitted Aix, the success of the waters had continued to be complete, and not the slightest anomaly of his gait was any longer visible. *A. Reumont.*

V. SCROFULA. TUMOURS OF THE BREAST. INDURATIONS OF THE NECK OF THE WOMB AND OF THE TESTICLES.

The abundance of common salt in the waters of Aix-la-Chapelle had suggested the idea of their beneficial effects in scrofula; and experience has in *certain forms* of that disease confirmed it, though the stronger saline waters (the so-named Soolbaths, as Creuznach, Rheme, Nauheim etc.) are generally more efficacious therein. The forms of the scrofulous disease, which are most successfully treated by the Aix waters, being chiefly those, combined with Syphilis (v. IX), especially the affections *of the periosteum* and the *bones*, and certain

eruptions of the skin and ulcers. In some also of the slighter scrofulous affections of children these waters act very successfully.

Case XXXIII.

Enormous swelling (Hyperostosis) of the shin-bone, with nocturnal pains; scrofulous Diathesis.

A Russian Gentleman, aged 30 years, of a rather strong frame, but from his earliest youth of a scrofulous habit and at this time suffering under hemorrhoids, had about eight years since contracted a syphilitic affection, which was treated with very little mercury, but a great quantity of Iodine. Some months afterwards, when he imagined himself quite cured, a swelling of the right shin-bone began to show itself, which, notwithstanding the application of all kinds of remedies (except the mercurial) continually encreased, and was attended with considerable pains. I found the right shin-bone, double its natural size in the centre, and very painful on pressure; the right testicle soft and atrophic, the left epididymis hardened; the nose covered with an eruption (Acne rosacea). — The patient was ordered to drink the waters, and to take common baths. After five days treatment with these, the swelling of the shin-bone became painful. From this time he had the douche *en arrosoir* on the part affected, for which the common douche was afterwards substituted. At the same time he began to take the Iodide of Iron. Subsequently vapour-baths were added to this course. After three weeks the nocturnal pains had entirely ceased, and the eruption on the nose nearly so; in the centre of the swelling of the bone a depression was formed, and from this time a diminution of the whole swelling took place; so that after a course of seven weeks only one third of the former enlargement was visible; all the other symptoms were likewise diminished, and he regained his general state of health. The next spring I had the opportunity of satisfying myself, that the health of this gentleman, who had passed the autumn and winter in France and Italy, was excellent; the very slight swelling of

the shin-bone had remained stationary, without any pain or disturbance of his normal condition. *A. Reumont.*

Similarly as in scrofula, the waters of Aix-la-Chapelle act in some analogous conditions, viz. *Tumours of the Breast* (not of a cancerous nature), swellings of the *prostate gland* and the *inguinal glands*, some *indurations of the neck of the Womb* (often connected with fluor albus) and of the *Testicles* etc. Some of these affections often seem to be in a casual connection with former eruptions of the skin. In indurations of the neck of the womb, the *Douche ascendante* is very beneficial.

Case XXXIV.

Tumours of the breast.

A Lady, aged 32 years, and of a healthy constitution, shortly after her confinement, in consequence of a cold, got an inflammation of the right breast, which terminated in suppuration. The abscess broke without being lanced, and considerable induration remained, which became often painful and resisted every treatment. Moreover she had the mishap to knock the affected breast against a table, in consequence of which several tumours were formed in it. By a six weeks course of the waters at Aix, especially by taking the douche *en arrosoir* on the part affected, she was entirely relieved from her pains and from the tumours. *G. Reumont.*

Case XXXV.

Swelling and induration of the neck of the womb; fluor albus.

A Lady, aged 32 years, the mother of several children, suffered from fluor albus during three years; two difficult deliveries were represented as having occasioned her malady. She complained of transient pain in the neck of the uterus, whereby the fluor albus was more copious; commonly attending the approach of menstruation. On examination I found

at the back part of the neck of the womb an indurated and somewhat thick swelling, the mechanical irritation of which might have suggested itself as occasioning this obstinate affection. A wrongly treated *eruption*, of an itchy nature, seemed also to have a principal part in it. This led still more to the persuasion of a successful treatment with the waters of Aix, which were accordingly applied internally, as common baths and as injections in the vagina. After three weeks the fluor albus began to diminish; the swelling also became softer; the transient pains abated; no eruption appeared, but also a considerable perspiration having a very offensive odour. This treatment was continued for two months; during the last fortnight of which I added to the injections with the sulphureous water a certain quantity of the Extract of Hemlock. The Lady left Aix quite cured. *G. Reumont.*

Case XXXVI.

Induration of the Testicle.

A Gentleman, aged 50 years, of a robust frame and atrabilious constitution, was affected since his childhood with a nettle-rash-like eruption of the skin, which annually returned. Two years ago he was affected, in consequence of a bruise, with a Hydrocele, connected with a swelling and induration of the testicle. By application of the spurge-olive-bark on the right thigh a suppuration was formed; the serosity of the scrotum was twice withdrawn, but the induration of the testicle continued. Several remedies (Mercury, Iodine etc.) were unsuccessfully tried. The patient resorted finally to Aix, and drank the waters for seventy five days, frequently taking exercise in the open air. The nettle-rash shewed itself very considerably, for the most part in the environs of the artificial ulcer on the thigh, where it formed pustules, strongly resembling the infantile small-pock: a large sized tetter appeared also on the left foot. Since that time the indurated swelling of the testicle considerably decreased; the eruption of the skin disappeared, the suppuration healed, and the patient became entirely cured. G. Reumont.

VI. AFFECTIONS OF THE MUCOUS MEMBRANES

(chronic Catarrhs of the respiratory organs, of the lining membrane of the intestines and the bladder).

ANOMALOUS MENSTRUATION.

Among these affections, in which the waters of Aix are also beneficial, we assign the foremost place to *the Catarrh of the Larynx*, the *wind-pipe and its ramifications* (bronchiæ), especially in persons of a phlegmatic constitution, with whom a plethoric condition of the abdominal viscera, a suppressed function of the liver, or a gouty or hemorrhoidal disposition exist. The use of the waters is also much recommended in *Aphony*, the consequence of a neglected catarrh. In all these affections the water-drinking is the principal means of relief; as also is the general bath; but the inhalation of the natural vapours of the mineral water (v. p. 16) is likewise of especial efficacy.

Note: Where congestions to the chest, a lingering fever, or bloodspitting, exist, the waters of Aix ought *not* to be taken.

Case XXXVII.

Chronic catarrh of the bronchial tubes.

A Polish count, after a violent disease of the chest, had a pronounced disposition to catarrhal affection of the bronchial tubes. This patient suffered much from cough, and had a viscous, often saffron-coloured, expectoration. The adverse influence of a northern climate made his condition still worse, and his sufferings were aggravated by an hemorrhoidal and gouty affection. — On arriving at Aix, he suffered apparently from the symptoms of incipient consumption. After some days rest, I ordered the drinking of the sulphureous water in small *quantities* mixed with milk; at the same time he took gentle

exercise in the bath-hall, so as to be able to inhale the vapours of the spring. Eight days afterwards he drank the mineral water, pure; afterwards in the quantity of eight 6 ounce-tumblers; and enemas with the mineral water were occasionally administered. His condition daily improved: he acquired strength, his nutrition encreased, and his appearance became healthier; the cough abated, and the expectoration was ameliorated. Having followed this course during six weeks, he was ordered to take some lukewarm baths with frictions, and then quitted Aix in a very satisfactory condition. *G. Reumont.*

In *the chronic Catarrh of the mucous membrane of the intestines* (habitual Diarrhœa), often alternating with constipation, and attended by griping pains in the bowels and a difficult digestion (sometimes depending on an impeded circulation in the system of the portal-vein) the Aix waters are likewise very beneficial.

We have elsewhere noticed the effect of these waters in *the Catarrh of the lining membrane of the bladder* (p. 38), and in certain female maladies (p. 52), but have still to speak *of difficult and suppressed menstruation;* whereon, when it is based on a gouty or hemorrhoidal condition, they very successfully act. Having already cited a case of difficult menstruation (p. 32), we proceed to a case of its suppression.

Case XXXVIII.

Suppressed menstruation.

A young Lady, aged 25, having received a fright during her menstruation, it was missed and did not reappear. In spite of all remedies this abnormal condition had existed during two years; she was of a pale complexion, had lost flesh,

complained of lassitude, giddiness, frequent headache, and was in depressed spirits. Before her arrival at Aix she was attacked with hemorrhoids. She began to drink the waters and to take the bath very cautiously: a fortnight afterwards she was ordered to take the douche on the lower part of the back and on the loins: leeches were applied to the piles, and she began to take daily rides on horseback. Under this treatment she visibly recovered; her appetite became healthy, her cheerfulness returned, and she acquired strength; but the menstruation did not re-appear. After two months the patient left Aix, the daily riding was continued, but no further remedy was administered. Two months afterwards the menstruation reappeared, which was attended with her complete recovery. *G. Reumont.*

VII. DISEASES OF THE NERVOUS SYSTEM.

When we consider that many affections of the nervous system originate in gout, rheumatism, abdominal affections, suppressed skin-eruptions and perspirations, metallic poison etc., it were impossible to suppose that a mineral water, acting so successfully upon the original cause, should not prove a remedy in many of those morbid affections of the nervous system, which are dependent thereon "sublatâ causâ tollitur effectus". — The affections which we here take into consideration, are chiefly of a *paralytic* kind (complete and incomplete paralysis), *neuralgia*, and other nervous affections.

1. *Paralysis.* * It must be admitted, that these waters are not so effectual in *paralysis* (*Hemi-*

* We have already spoken of the paralysis which has a rheumatic and gouty origin (p. 30 and 35); that which is the consequence of mercury or syphilis will subsequently be considered.

plegia) consequent upon an apoplectic fit, as when it is engendered by other disorders, which do not produce an organic lesion of the central parts of the nervous system (metastatic paralysis). The chief benefit of the watering course in those primary (apoplectic) cases consists in an amelioration of the patients general condition, and in removing the relaxation or contraction of the muscles. Nevertheless there are some few instances, wherein the course of the waters has assisted the complete recovery of such patients. * The course must be followed *with the utmost caution*, in order to prevent another fit of apoplexy; therefore it should not be adopted until a certain time after the fit has passed; the general bath should then be of a lower temperature than usual, in many cases commencing with hip-baths: where there is any tendency to congestions of the brain, and to constipation, the water-drinking must *not* be allowed. It is frequently requisite that the sulphureous water should be mixed with saline purgatives. Douches with frictions will often produce a great improvement; but general vapour-baths are *not* to be used, and the local vapour-baths (of the lower parts for instance) may, exceptionally only, be given.

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* Our English readers will perhaps be interested by the fact, that in the year 1735 the celebrated *Handel*, while suffering severely from a palsy in his right arm, was, after having tried in vain the most popular remedies, entirely cured by the waters of Aix-la-Chapelle.

In *paralysis, originating in an organic affection of the spinal-cord* (*Paraplegia*), nothing can be expected from a watering-course at Aix; whereas in palsies depending on affections of *the covering parts* of the spinal cord (swellings and tumours of the vertebræ, exudations on the covering membranes etc.), which bear often a gouty, rheumatic, or syphilitic character, they are sometimes successfully applied.

Some kinds of Paralysis originate not in a morbid alteration of the centres of the nervous system, but in affections of certain nerves: in which cases the waters of Aix are very beneficial. To these belong the paralytic affection after a difficult parturition, that of the arm and hand arising from pressure on the corresponding nerves, the palsy of the lower extremities after long standing dysenteries, etc.

Case XXXIX.

Paralysis.

A Lady of Brabant, who, after difficult parturition attended with violent discharges, had exposed herself to the cold air, immediately felt a stiffness and heaviness in the left leg and thigh, so that she entirely lost their use, retaining in them scarcely any sense of feeling. Various remedies and among these a course of the waters of Spa, failed of success. Common bathing in the water of the great source at Aix, afterwards douches and rubbing of the parts affected with the flesh-brush, so much relieved her, that at the end of two months she was able to walk with very little assistance. She then received the vapour upon the affected parts only *and at the* same time drank the Pouhon water; at the end

of three months she found the sensibility, movement, and power of her limbs restored. *Williams.*

Case XL.

Palsy of the lower parts and swelling of the knees, in consequence of an obstinate Dysentery.

A Gentleman, aged 30 years, was attacked with a violent Dysentery, which after six weeks terminated in a chronic Diarrhœa, followed by a palsy of the lower parts, with a great and painful swelling in both the knees, which were constantly in a state of semi-flection. Three weeks common bathing, douches from the lower part of the back down the thighs and legs to the feet, were followed by such an amelioration, that the patient could extend the knees; but was still unable to walk, until he had continued the watering course upwards of two months. Sometime after this, he was completely restored. *G. Reumont.*

In the *Tremor of various members*, not as the consequence of general debility, but occasioned by a disturbed influence of the nerves, and to be considered as a low degree of palsy, the Aix waters are often of great benefit. On the tremor as a symptom of metallic poison, we purpose to treat hereafter.

Case XLI.

Tremor of the hands.

A Gentleman had a very extraordinary tremor in both hands; he was 50 years of age, and generally in good health. He knew no other cause of this tremor, than his having taken up in a sudden passion a heavy weight, when he was instantaneously seized with the tremor. In six weeks he was cured by the douche-baths. *Veling.*

In modern times the sulphureous waters have generally been much praised for their success in *Chorea* (St. Vitus's dance) and in similar dis-

orders of a spasmodic kind. Considering their analogous effect in other morbid conditions, we may fairly expect their equal success in the above mentioned nervous maladies. But our experience has hitherto been too short to affirm their absolute efficacy in such affections. So likewise it is with *the gradual Atrophy of the muscles* (Atrophie musculaire progressive), which terminates in adipose degeneration, almost always a partial palsy.

2. *Neuralgia.* This nervous affection is one which offers the most obstinate resistance to medical treatment; the waters of Aix acting against its cause are sometimes sufficiently powerfull for its cure. For this they must be employed with energy and for a longer time, than in most other diseases; the douches especially.

Case XLII.

Obstinate Neuralgia in the Sciatic nerve.

A Polish Gentleman, aged 40 years, having been much exposed to the inclemency of the weather in the Revenue service, had frequently suffered from rheumatic affections; he had also gone through an anti-syphilitic course, (mercurial frictions) and five years ago was seized with a violent neuralgia in the left Sciatic nerve, which in spite of medicine had lasted until this time. Last winter, after a very severe headache, connected with a stoppage in the nose, there appeared a purulent-sanguineous defluxion from that organ, which continued for several months, after which the headache ceased. During this spring he had gone through a course of the waters at Karlsbad, which succeeded in curing *a swelling of his* liver, but failed as to the neuralgia. —

On examining this somewhat bilious-looking patient, I found no alteration in the region of the liver; there were some superficial excoriations on the lining membrane of the nose; the Sciatic nerve was very sensible to pain, which was aggravated by pressure, or by any motion of the leg. On one of the bones of the leg (capitulum fibulæ) there was a painful swelling, which had appeared after the Neuralgia. By the use of common baths, and subsequently of the douche-baths on the part affected, the neuralgic pain was speedily much alleviated; copious perspirations ensued, and after four weeks the Neuralgia was totally cured. The syphilitic symptoms were subsequently cured by the addition of Iodine.

A. Reumont.

(Beside this case we refer to case XI.)

VIII. THE DISORDERS PRODUCED BY METALLIC POISONS.

The morbid changes of the system in general and of several organs, produced by metallic poisons (chiefly from *mercury, lead, copper* and *arsenic*), have from olden times manifested the necessity of going through a course of the Aix waters. If we consider the fact, that in such cases the above named poisons have been found in different parts of the body (in the liver, the spleen, the lungs, the kidneys, and in the muscles and bones), the great effect of these waters proves how far they are able to enter into the change of matter (nutrition) of the different organs. It is certain, that in cases, where mercury had in former years been taken, salivation and even mercurial ulcers of the mouth ensue; demonstrating their influence to bring parts of

this metal, for a long time hidden in some organ, again into the circulation of the blood.

The chief symptoms, from which those patients suffer, who have for a longer period and inconsiderately taken mercury, are: great debility of the muscles, loss of flesh, want of sleep, pale complexion, tumefied and often bleeding gums, salivation, pains in the joints and bones, skin-eruptions, ulcers, diarrhœas, colics, spasms, and tremor of the limbs, gradually progressing into an incipient and at length to a complete palsy etc. Swellings of the bones and caries are less frequent results, and belong for the most part to Syphilis.* Sometimes these symptoms are combined with syphilitic, rheumatic and gouty affections, rendering them still more obstinate. In all diseases of this kind the waters of Aix-la-Chapelle have a most salutiferous effect, by expelling the metal from the system trough the natural emunctories, and by strenghtening the constitution (v. page 19 and 20). This may be

* In speaking of the disorders produced by the use of Mercury, we are to understand cases, originating from several professions connected with its employment as also those which result from injudiciously taking that metal in certain diseases. Though it may be difficult to separate, absolutely, the mercurial symptoms from the syphilitic, most of the cases which will be communicated hereafter present the true character of the disorders brought on by Mercury, where the syphilitic taint is probably extinguished. The combination of both diseases (the mercurial and the syphilitic) *remains to be considered.*

abundantly witnessed at Aix in every season. The drinking of the sulphureous water and the use of the vapour-bath are the principal points, though the other methods of employing them tend likewise to their good effect.

Case XLIII.

Mercurial disorder.

A Lady, aged 36 years, of a feeble constitution, had, unknowingly, taken Mercury for six weeks, which was administered to her by a wicked woman for the purpose of slow murder. A high degree of weakness, connected with an extraordinary loss of flesh, spasms, privation of sleep, colics, frequent diarrhœa, loss of appetite, and salivation, ensued. The occasion of her sufferings having been detected, several remedies were prescribed; but it was soon resolved to send her to the waters of Aix. She was directed to commence with the sulphureous water mixed with milk, afterwards alone; and then to take every second day a bath The appetite returned, the salivation and all other symptoms gradually decreased, and she recovered strength. After two months the patient left Aix quite cured. *G. Reumont.*

Case XLIV.

Considerable loss of flesh and general palsy, consequent upon an immoderate use of Mercury.

A military man, aged 36 years, of a robust constitution, had for many years suffered from various syphilitic symptoms, and had at different times taken in Poland during the winter-seasons mercurial preparations. His irregular mode of living and the not less irregular treatment of his malady at length produced symptoms of mercurialism; especially a considerable loss of flesh, and a nearly general palsy. He had already used the waters of Aix on account of several rheumatic affections.

After a medical treatment of several days for some dyspeptic symptoms, he was ordered to drink the waters, ultimately ten tumblers per diem: at the same time he began to take a common bath every second day. After three weeks a considerable *salivation* ensued, which, instead of weakening the patient, had a very beneficial influence on his sytem. He soon regained strength and flesh; till, after a course of six weeks with the addition of some vapour-baths, he left Aix entirely cured. *G. Reumont.*

Case XLV.

Complete aphony consequent upon the incautious use of Mercury.

A military man, aged 25 years, of a good constitution but highly irritable temperament, had for the removal of some slight syphilitic affections taken very irregularly several mercurial preparations. Suddenly, and without any other cause, he lost his voice. Several remedies having been fruitlessly tried, he had recourse to the Aix waters. — He was ordered to drink the water from twenty to thirty oz. daily, to take common baths and every third day a vapour-bath. For a direct action on the nerves of the larynx, he was ordered *to inhale the vapours* emanating from the source. After a treatment of ten days, his voice began to acquire distinctness, and at the end of the fifth week it became quite clear. *G. Reumont.*

Case XLVI.

Incomplete palsy of the lower extremities, consequent upon mercury and taking cold.

A young danish Gentleman had been several times syphilitic, and treated accordingly by Mercury and Iodine. Having after a fortnight's course of mercurial treatment exposed himself to a cold, he was suddenly seized with a very violent Neuralgia in both the Sciatic nerves, and pains in the lower part of the back. Though this neuralgic affection was successfully treated, it left an incomplete palsy of the *lower extremities*, obliging him at first to use crutches, and

afterwards a stick; sometimes he still felt pains in the originally affected parts. In two months after the neuralgic attack, he came to Aix much emaciated and shewing several symptoms of a mercurial affection; his movements, with the aid of a stick, being in the highest degree difficult and painful. After twelve days, the common baths and the douche with frictions on the affected parts produced a visible amelioration; the patient being able to walk more erect and easier. For strengthening the system, he was ordered to take at the same time Iodine of iron and Quinine. After having taken fifteen douches, he was able to walk without a stick; and after the twenty-fifth douche the palsy was completely gone, as also all symptoms of the mercurial affection.

A. Reumont.

Another metal, which produces many disorders of the constitution, is *Lead;* it affects chiefly operatives, painters and such others; sometimes wine is adulterated with it (salts of lead) and when drank it engenders a very severe malady (*mal de Poitou*): it has also recently been observed, that persons, who have been accustomed to take snuff from tobacco which has been packed in lead-foil, suffer much from symptoms which must be ascribed to this poison. It occurs likewise in the Netherlands, where the rain-water is kept for drinking in leaden cisterns. The symptoms produced by this poison are chiefly, violent colics, obstinate costiveness, pains in the limbs and joints, tremors and palsy of the upper extremities, etc.: the gums assume a blue tinge. In all these morbid affections the waters of Aix are of the greatest benefit.

Case XLVII.

Palsy of the upper extremities.

A Gentleman had suffered extremely from the *mal de Poitou* (colic); in consequence of which he had a palsy of the upper extremities, so as to be disabled from picking up even a straw. In this distressing situation he had recourse to the waters of Aix: their use completely answered his expectation, for after drinking the water and having the douches on the parts affected, the free use of his arms and hands was perfectly restored. *Veling.*

IX. THE SYPHILITIC AFFECTIONS.

In regard to these the effects of the waters of Aix-la-Chapelle have been both too much and too little eulogized. On a former occasion* we set forth the principle of their efficacy in these affections — that the Aix waters do not effect by themselves a cure of the *lues venerea*, *but constitute a most powerful and in many instances an indispensable auxiliary to the treatment of certain forms of that disease.* We intend thereby those secondary and tertiary affections, which by the complication of the mercurial cachexy, or by other constitutional diseases (scrofula, gout, rheumatism, scurvy) have lost their original nature. In all these the Aix waters are to be considered, partly as a most powerful auxiliary in applying at the same time specific remedies (Mercury, Io-

* We have treated this subject largely in a pamphlet (1858), wherein are laid down the true principles of the effect of the Aix waters in such cases, withsome incidental observations.

dine), partly as a preparatory agent for the successful application of anti-syphilitic courses.

Of all complications of the syphilitic affections that *with the mercurial cachexy* is especially treated by a course of these waters with so much success (v. page 62). A great number of the most wretched sufferers owe their recovery, for which they had vainly tried the most distressing courses, to a combination of these waters with other remedies. The Mercury, being one of the surest remedies in this formidable disease when applied properly and with due caution, has in its irregular and incautious application a most mischievous effect on the system, aggravating the old complaint with a new one; in those cases especially, where the patient is of a naturally weak constitution, or where his system has been declining under one of the above named diseases.

It being sometimes very difficult, and often impossible, to distinguish between syphilitic and mercurial symptoms, the sulphureous waters are of the greatest help in *detecting* the contagious principle, should such exist, and thus apprizing the physician of its presence by indubitable symptoms; while the mercurial cachexy soon experiences the sanatory influence of the course. In general, the Aix waters are *a positive test* to detect *latent* syphilis, and it is for this quality, that very many persons are sent to Aix, so that a fair trial may be made of its waters. The

following instances will confirm what has been said upon their properties.

Case XLVIII.

Ulcerations in the mouth; a syphilitic eruption of the skin apparent after the application of the vapour-baths.

A Russian officer had four years ago contracted a syphilitic infection, for which he took Mercury but without following a proper regimen; two months afterwards secondary symptoms appeared in the throat, which were combated with Iodide of Potassium and the Zittmann decoction, but with variable effect. Subsequently there appeared small ulcers on the under-lip, the nature of which seemed dubious: for this affection he was sent to try the Aix waters as a test of Syphilis. — After some common and vapour-baths a genuine syphilitic eruption of a pustulous form appeared on the chest, the neck and the arms, combined with a feverish condition. After more vapour-baths the like eruption presented itself on the forehead, but at the same time the ulcers on the lip became smaller. After ceasing the course of the waters, and the remission of the fever, the patient was submitted to an anti-syphilitic treatment. *A. Reumont.*

Case XLIX.

Syphilitic eruption of the skin, appearing during a course of the waters.

A Russian Gentleman, aged 25 years, affected with a syphilitic eruption and having already taken large doses of Mercury, was at length (apparently) successfully treated with the Zittmann decoction. But his physician, doubting of his full recovery, sent him to Aix for an experimental course of the waters. Ten days after drinking the water and taking common and vapour-baths, there appeared on the back and the arms a syphilitic eruption of the skin (Erythema syphilitica), which proved the correct opinion of his physician. After having postponed the course of the waters, the Zittmann *decoction was* again applied with great success; after

which their second course was not followed by any new syphilitic symptom, and the patient left Aix permanently cured.

A. Reumont.

The Aix waters are highly esteemed in those cases of syphilitic affections, wherein the system becomes so weakened under a long course of medical treatment, as partly to lose its susceptibility of further medicine: in such cases their preparatory course will effect a thorough renovation.

Case L.

Inveterate Syphilis; incautious use of mercurial and other treatments; preparatory course of the waters.

A Russian Gentleman, aged 28 years, of a feeble constitution, was after a primary affection seized with secondary symptoms, which were long and fruitlessly treated with a number of mercurial and other preparations. When he came to Aix-la-Chapelle, he was still affected with secondary symptoms in the mouth (*plaques muqueuses*), and swollen cervical glands, emaciated by the aforesaid long-continued treatment. I found it necessary in the first instance, to forbear all other treatment than a preparatory course of the sulphureous waters. I therefore ordered him to take the waters internally in a large quantity, common and vapour-baths, with a nourishing diet. After some time he became much stronger, but the syphilitic symptoms were encreasing. The waters were now discontinued, and the Zittmann decoction applied (which had failed several times in St. Petersburgh) with all due caution, whereby he was entirely cured of his malady. As a test the waters were again applied in all their forms during two months, and afterwards combined with the Potassium of Iodide; not a single syphilitic symptom now shewed itself, and the constitution of the patient was much strengthened. According to the communications

which I received from him after some years, he had continued in good health. *A. Reumont.*

The *syphilitic affections*, which are *the most frequent* after a mercurial treatment not properly and with due caution applied, or too long protracted, and especially when the patient is afflicted also with one of the above named diseases, are partly *constitutional*, partly *local:* anämia (poverty of blood), decrease of the nutrition, flying pains in the fibrous tissues, muscular weakness, tremors, skin-eruptions and ulcers, swellings of the glands, neuralgia, complete and incomplete palsy, affections of the mucous membranes, of the joints, of the liver * and finally, of the periosteum and the bones (nocturnal pains, swellings, caries etc.)

To combat these several affections, every method of applying the sulphureous waters must be put in action according to the special case. For an illustration of what has been above stated, we have selected from a multitude of cases the following.

Case LI.

General emaciation; considerable swellings of the ulnar- and shinbone (Hyperostosis).

A Russian Captain, aged 35 years, after having been treated for a syphilitic affection by external remedies only, was attacked with secondary symptoms (skin-eruption). Not-

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* Whether the *fatty* (amyloid) *degeneration* of *the liver* has *a mercurial or syphilitic* origin, is not yet absolutely decided.

withstanding many anti-syphilitic remedies (amongst them frictions with the mercurial ointment), some time afterwards large swellings ensued of the bones of the arm and the leg, several of which ulcerated, bafling the effect of the most powerful remedies, which, with only brief interruptions, had been applied successively during seven years. The cold sulphureous waters of Druskeniki had also been tried in vain. In this sad condition the patient rested his last hope on the Aix waters. On his arrival he was the veritable image of the highest degree of mercurial cachexy, still combined with syphilitic symptoms, enormous swellings of the bones, especially of the left ulna and tibia. Never in my life did I see a more wretchedly-looking person: he suffered also from the utter absence of sleep, derangement of the stomach, and nocturnal pains in the diseased bones. After having taken the waters internally and the common baths for some time, his constitution became somewhat ameliorated, the nocturnal pains ceased, and sleep returned to him. In this exhausted condition of the patient, I prescribed the Iodide of iron; besides douche-baths *en arrosoir* on the affected bones. Under this treatment his constitution became stronger, and the mercurial and syphilitic symptoms visibly decreased. Vapour-baths, which now were employed, produced a mild salivation, but did not in the least debilitate the patient. After a course of ten weeks (in the later period changing the Iodide of iron for the Iodide of Potassium) he left Aix in quite an altered condition: there remained not the slightest nocturnal pains, and the swellings of the bones showed such a diminution and were reduced to such a condition, that nothing could be feared from their unimportant presence.

A. Reumont.

Case LII.

Tremor of the muscles; syphilitic tubercles of the cellular tissue; boils as a crisis.

A Polish Gentleman, aged 38 years, suffering from syphilitic tubercles of the cellular tissue, and having taken much Mercury, was affected with a nearly continual tremor

in the muscles of the upper and lower extremities. After taking the douche-baths for nearly three weeks, alternately with common baths, there appeared on different parts of the body large boils, connected with a general febrile condition; one of them required incision, and became transformed into an indolent ulcer, which terminated with a broad cicatrice after large doses of Iodide of Potassium. The course of the waters in combination with the last mentioned remedy had but a slight influence on the tubercles, for which the patient was subjected to a specific treatment. *A. Reumont.*

Case LIII.

Eruption of the skin (Lepra).

An Officer, aged 48 years, and previously of a good constitution, but much debilitated by continual debauchery, had been several times during twenty years affected with the *Lues Venerea*, and undergone different treatments with more or less result. Finally he was affected with a nearly general skin-disease, which — after the definition of Dr. Cullen — resembled a genuine *Lepra*. Never in my life had I seen a more disgusting exhibition; not only in respect to the eruption, but to the offensive odour emanating from the whole surface of his incrustated body: besides this he constantly ejected a very offensive saliva. He had taken a large quantity of Mercury, and at length came to Aix for relief. From the history of his case I concluded, that Mercury had a principal share in the production of this formidable skin-disease. I accordingly directed him to drink as much of the sulphureous water as his stomach was able to bear, taking at the same time common baths and douches on the whole surface of his body, with, after three weeks, a vapour-bath every second day. His food was ordered to be simple, and easy of digestion; he was allowed daily two glases of generous old wine. Two months afterwards, he began to assume a more human-like appearance; his face and neck were already much cleansed. The course was continued for another *month, and when* he left Aix, the salivation had for some

time ceased, the offensive odour was nearly gone, and the skin-disease was transmuted into a milder (herpetic) form. A second course would have cured him entirely.

G. Reumont.

Case LIV.

Inveterate Syphilis, complicated with scrofula.

A German Gentleman, aged 32 years, of a somewhat delicate frame and scrofulous diathesis, contracted in autumn 1852 a syphilitic affection, which disappeared after taking saline aperients and embrocations of camomile-infusion. A few months afterwards a maculous eruption, which was considered syphilitic, appeared on the forehead; he was accordingly treated with the Zittmann decoction, but without following the proper regimen. After a violent cold, contracted immediately following this treatment, he was seized with very severe asthmatic attacks, from which he had never before suffered, lasting four days, and immediately followed by a painful swelling on the right foot which degenerated into an abscess. Until the spring of 1854 the patient was in a weak and languishing condition, which was successfully treated with the baths at Rehme. Until 1856 he enjoyed tolerably good health, but at that time small ulcers showed themselves in the throat, for which he was submitted to a mercurial treatment, but still without observing a proper regimen. In the autumn of 1857 ulcers and swellings in the nose and a skin-eruption appeared, for which he was now treated with the Iodine of Potassium, and, this proving of no use, the Zittmann decoction was repeated. The amelioration produced thereby was not of long duration, and the patient finally resorted to the waters of Aix for the eventual cure of a disease, which had tormented him through so many years. — On his arrival he was in a very emaciated, cachectic state; the upper part of the nose was much swollen, red and painful to the touch, with superficial ulceration of its lining membrane: the gullet was of a fiery red hue; stoppage of the nose and a sensation of heaviness in the forehead, vertigo,

and pains in the back supervened. He was ordered to drink the sulphureous water and to take common baths; also to inhale the vapours, which produced a freer circulation of air through the nostrils. After some time he began to take vapour-baths alternating with the common ones, and Iodide of Potassium in addition to the sulphureous water. By this treatment all symptoms of the disease were ameliorated and the constitution became stronger. When a course of five weeks (with the addition of some douche-baths) had restored the nose to its normal shape and functions, and entirely relieved the pains, the patient left Aix in perfect health.

A. Reumont.

Case LV.

Nocturnal pains (Dolores osteocopi); gouty diathesis.

A Russian General, aged 46 years, of an athletic frame, having been externally treated for a syphilitic infection, was after some months attacked with secondary symptoms in the throat, which were at first unsuccessfully treated by the Bichlorid of Mercury, but finally cured by mercurial frictions. He was then ordered to take cold river-baths (this was during his residence in Poland). Notwithstanding this irregular procedure, he enjoyed tolerably good health for three years after the general affection had been contracted. Being, however, of a gouty disposition, he suffered during the Crimean war from gouty attacks (Podagra); and at the same time began to experience nocturnal pains in the frontal- and in the shin-bone, suffering at the same time from a swelling of the liver. He was sent to Karlsbad, where the liver complaint was cured, but not so the affection of the bones. Though his originally vigorous constitution was somewhat impaired by these long sufferings, no swellings of the bones could then be detected; one single place on the lower part of the left shin-bone was somewhat swollen and painful to the touch: small ulcerations of a callous appearence were here and there observable on his feet, from which had come *forth, as the patient* himself stated, sandy particles. The noc-

turnal pains were chiefly in the frontal bone and in the shin-bones; those in the great toe were of a gouty character. The skin was inclined to much perspiration; nothing on the part of the liver; dyspeptic symptoms. — He was directed to begin the course with common baths; by a few of which the nocturnal pains were in a great measure abated and sleep was restored. After the use of the vapour-baths, alternating with the common ones, the secretion of the salivary glands was much augmented, and the heretofore livid gums regained their natural colour. The nocturnal pains now entirely ceased, and his general condition was much ameliorated. After he had taken twelve vapour- and an adequate number of common-baths, I ordered the douche on his legs and feet. Under this treatment he occassionally felt transient prickings under the skin of the legs, especially of the great toe; the ulcerations of the feet ceased, and the painful spot on the shinbone disappeared. After a course of six weeks the patient left Aix in good health.

A. Reumont.

(Connected with these cases, reference may be made to cases 33, 44, 45 and 46.)

In relation to the syphilitic affections, the convalescent ought to be *especially cautious* as to his subsequent management; the inconsiderate use of sea-bathing, but especially of the chalybeates, after a course at Aix-la-Chapelle is often attended with very bad consequences. The surest course will be found in quietly awaiting the after-effect of the Aix waters either at home or in some southern residence during the subsequent autumn and winter.

CONTRA-INDICATIONS.

In conclusion, I would say a few words upon those diseases, wherein the waters of Aix-la-Chapelle should *not* be employed, or partially only. A course of the waters is improper in many fevers, and (with very few exceptions) in inflammations, in hemorrhages from the lungs, from the womb etc., in cases likewise of tubercular consumption, in dropsy of the chest and of the abdomen, in diseases of the heart and of the arteries (aneurism).

In cases of plethora also with congestions to the head and the chest, the drinking of the Aix waters, and the use of their douche- and vapour-baths, are improper: under certain circumstances, however, lukewarm baths are permissible. Neither do gastric conditions during their continuance permit the water-drinking, though the common bathing is allowed.

During menstruation the course of the waters is to be suspended.

Pregnancy, in its first five months only, forbids a course of the waters; but bathing after the fifth month is nearly always permitted.

Advanced age demands great caution in taking a course of the waters: vapour-baths must not be used.

BORCETTE.

HOT SPRINGS.

"Nothing but the proximity of Borcette to the most famous waters in Europe could lessen their value; were they at any considerable distance, they must undoubtedly be, as they justly deserve, most highly prized."

C. Lucas. (Essay on waters. 1756.)

The little town of Borcette, situated to the south of Aix-la-Chapelle and in such a vicinity, that on several points it comes in contact therewith, is uncommonly rich in hot springs, many whereof have neither been used for a medical purpose, nor examined in a chemical point of view. The springs bubble up from transition lime-stone, and are partly *sulphureous*, partly, void of sulphuret of sodium and hydrosulphuric gas, pure *muriatic-alkaline springs*. Their flowing- off is so abundant, that it forms a constant stream of warm water (der warme Bach).

Its *muriatic-alkaline springs* (in number at least a dozen) are very variable in their temperature, according to Doctor *Lersch* from 21½ to 59½° R. (83 to 166° Fahr.); the hottest of them issues with a temperature of 59½° R. (166° Fahr.) in the "*Mühlenbend*" and supplies four bath-houses with water (*Schwerdtbad, Goldmühlenbad, Prinz von Lüttich* and *Kaiserbad*), ac-

cording to Doctor *Lersch* it is *the hottest spring in middle Europe*, being hotter than the "Karlsbad-Sprudel." (59° R. or 164° Fahr.) The "*Kochbrunnen*" (boiling well), issuing quite uncovered in one of the streets of Borcette, shows at present a temperature from not more than 48° R. (140° Fahr.); it derives its name from the constant bubbling up of a great quantity of gas, which bears some resemblance to boiling; from this source two bath-houses (the *new Bath* and the *Krebsbad**) are supplied with water. Beside these springs the *Rosenbad*, the *Karlsbad*, the *Johannisbad* and the *Schlangenbad* possess more or less hot sources.

The *sulphureous hot springs* of Borcette are considerably fewer in number, than the pure muratic-alkaline ones; excepting a few small sources, there are worthy of mention the spring of the *Victoria-Brunnen*, (the usual drinking well, so called after the Princess Royal of Prussia and of England) having a temperature between 45° and 47° R. (133° and 138° Fahr.), a spring in the *Rosebath* and the so called *Pockenpützchen* (Pock-well) with a temperature of 33° R. (106° Fahr.), situated near Borcette in the open air, and frequented by the poorer class.

According to the *Analysis* of the late Doctor *Monheim* 16 ounces of the water of the three most famous springs contain —

* In this old bath-house *Frederic the Great of Prussia took baths during* his stay at Aix in 1742.

	Drinking-well. Gr.	Boiling well. Gr.	Hottest spring. Gr.
Sulphuret of Sodium . .	0,29698.	—	—
Muriate of Soda	20,62402.	20,71096.	22,05734.
Carbonate of Soda . . .	6,59950.	6,65103.	6,72235.
Sulphate of Soda . . .	2,56704.	2,94950.	3,46544.
Phosphate of Soda . . .	0,14154.	0,14991.	0,16058.
Animal organic substance	0,20835.	0,22371.	0,23185.
Silicate acid	0,55280.	0,55595.	0,65600.
Fluate of Lime	0,48545.	0,50234.	0,57262.
Carbonate of Lime . . .	0,24069.	0,30835.	0,39498.
Carbonate of Magnesia, Carbonate of Strontian, Phosphate of Soda-Lithia	0,15596.	0,20421.	0,29829.
Total grains	31,87233.	32,25596.	34,55945.

The gases contained in these springs are in the following proportion:

100 cub. inches of the gases emanating from the springs consist of:

	The drinking-well. Cub. inch.	The boiling well. Cub. inch.	The hottest spring. C. inch.
Nitrogen gas	70,75.	71,5.	71,35.
Carbonic gas	29,05.	28,4.	28,50.
Hydrosulphuric gas	20.		
Oxygengas		1.	15.
Cub. inch.	100,00.	100,00.	100,00.

In comparing the analysis of the *sulphureous* springs of Borcette with that of the Emperor's well at Aix, a very slight distinction appears between them. Those of Borcette are in smell and taste like the thermal waters of Aix, only somewhat less unpleasant and more saline; its other springs have not the peculiar sulphureous odour.

According to this great resemblance in a chemical point of view, the waters of Borcette differ but slightly from those of Aix in respect to their medical virtues; in general therefore, they are proper for the treatment of those several morbid conditions for which the waters of Aix are so beneficial. The Borcette thermal waters, acting somewhat more powerfully on the urinary secretions and with a more purgative tendency than those of Aix, are still more efficient in the treatment of certain abdominal diseases; but in mercurial and syphilitic diseases the waters of Aix-la-Chapelle, for drinking at least, are preferable. The chief distinction between the springs of Aix and those of Borcette consists in the difference of their respective temperatures — a point of some importance, for example, in regard to the vapour-baths: patients having a great rigidity of the skin will perspire more freely in taking the hottest vapour-baths of the muriatic-alkaline springs at Borcette (Prinz von Lüttich, Schwerdtbad, Goldmühlenbad etc.), where the vapour has a temperature of 46° — 48° R. (135° — 139° Fahr.), about 10° R. (23½° Fahr.) higher than at Aix.

The bath-houses of Borcette are private property, most of them attached to very good Hotels (Rosebath, Charlesbath, Schwertbath, Prinz von Lüttich etc.), and all affording board and *lodging.* The *Rosebath-Hotel* contains a large *and airy Hall,* warmed by the natural heat of

its spring, affording a very comfortable sojourn during the cool weather.

The accommodations for bathing, douching etc. are the same as in Aix. By its situation, Borcette is more suitable for patients by whom retirement and repose are preferred to the bustle and amusements of its larger and livelier neighbour-town; accordingly too, the charges are in most of the bath-houses more moderate than at Aix.

It is worth noticing, that in the vicinity of the *warm stream* (p. 77) a very rare plant grows, viz. *Cyperus badius Desf.*, and of that in the "Pockenpützchen" various plants, common to hot springs (*Conferva Balneorum, Tremella gelatinosa*) are to be found.

THE CHALYBEATE SPRINGS
OF AIX-LA-CHAPELLE AND OF BORCETTE.

In each of these towns, and in their vicinity issue several chalybeate springs; one of which, situated in Aix on a square called "Driesch" was in the 18th century used for medical purposes under the name of "Spa-spring", but is now utterly neglected. In modern times two chalybeate sources in Aix and Borcette are used for bathing:

1° In *Aix* a spring situated in the Theatre-street (in the elegant and comfortable Hotel Nro. 10), called after its former owner "the Leuchtenrath Spring" and now the property of Mr. von Gericke. The water of this spring is warmed for bathing to any required temperature; the arrangements for bathing, douching etc. aret horoughly adapted to their purpose.

2° In *Borcette* the "*Wilhelms Spring*" in the St. Johannes bath-house; the water is (improperly enough) heated for bathing by the warm alkaline water of this bath-house.

The temperature of the *Leuchtenrath Spring* is of 9½° R. (53° Fahr.); according to Monheim's *analysis* 16 ounces of it contain 4,117 cub. in. *of carbonic gas*; its solid substances are in the

same quantity about 3½ grains, and are chiefly carbonate of soda, muriate of soda (common salt), sulphate of soda, carbonate of iron (0,89718 gr.) etc. The *Wilhelm-Spring* in Borcette is nearly of the like composition, but possessing less of carbonate of iron.

It is shown by the analysis of the Leuchtenrath-spring, that the carbonic gas is far less, but the carbonate of iron much more, in quantity than in other renowned chalybeate springs (Spa, Schwalbach etc.); it would therefore weigh rather heavily on the stomach when drank in its pure state. To remedy this inconvenience its present proprietor impregnates the water for drinking with carbonic acid. But it is especially fit for bathing, and answers well in all those morbid affections, where chalybeate baths are indicated: general weakness originating in long continued fevers and in a loss of blood or of other liquids; chlorosis (retention of the menses) leucorrhœa (whites), encreased nervous irritability, hysterics, relaxation of the mucous membranes, scrofula etc. These baths are sometimes highly beneficial after a course of the sulphureous waters: the temperature of the bath, the rules for taking them and the dietetics, being arranged by the physician.

RULES

TO BE OBSERVED DURING THE USE OF THE WATERS OF AIX-LA-CHAPELLE AND BORCETTE.

"Every one, who takes a course of mineral waters, has not only a just claim to the spring, but also duties to be observed in taking it."

SEASON. TERM OF THE COURSE. RULES FOR DRINKING AND BATHING.

Premising, that a course of the waters of Aix-la-Chapelle and of Borcette is in no case to be taken without medical advice, we offer none but general rules, leaving nearly all especial and exceptional directions to the visitor's physician.

Though *the most usual season* for taking these waters extends from the beginning of May to the end of September, the other times of the year are not excluded from their use: October, by its almost continually fine weather, is still fit for it. In the winter also, the course may be used in urgent cases, if the patient takes up his residence in one of the numerous bath-houses which are always duly arranged for the winter-course.

The term of the course must be in accordance *with* the magnitude and character of the disease, *its duration,* and the constitution of the patient;

it is therefore a general rule, that a term of five to six weeks will suffice for a somewhat complete cure of not inveterate diseases: in more serious cases, a longer time will of course be necessary.

The most beneficial time *for drinking the water* is the early morning (between six and eight o'clock) *before* breakfast; it is but exceptionally that the water is drank at other times of the day. The usual drinking-well in Aix is the *Elisenbrunnen* (v. p. 8), in Borcette the *Victoriabrunnen;* though weak or lame patients may drink the water in their bath-houses. Tumblers containing 9 ounces of water (about half an English pint) are most commonly used. As a general rule it should be observed, that not the quantity of water which is *swallowed*, but which is *digested*, proves beneficial. Four or five tumblers are in most cases considered a sufficient quantity; between each of them the patient should take moderate walking exercise.

After the drinking of the water *the bath* is taken, usually also before breakfast; weak and aged patients are however allowed to take a light breakfast half an hour before the bath. Patients, who are not ordered to drink of the well, may go into the bath immediately after rising. Exceptionally, for the attaining certain purposes, the bath is to be taken in the evening; and then the patient should be put to bed. One bath is generally taken every day; its temperature and

the term of taking it, must be in accordance with the circumstances of the disease; as a rule, the temperature of a single bath must not exceed that of the blood (about 30° R. or 99° Fahr.); but the most usual temperature stands between 26° and 28° R. (90° and 95° Fahr.) The middle term of a bath is fifteen minutes, the longest is an hour. In taking the bath slight movements are beneficial; every tendency to sleep must be kept off. It is very judicious to rub the body with both the hands, with a sponge, flannel, or soft flesh-brush. If the patient in taking the bath feels unwell, he must leave it immediately. After having taken the bath the patient may breakfast, which may be followed by a little rest; the remainder of the morning is to be devoted to reading and moderate exercise.

Many of the above rules have relation also in general to *the douche* and *the vapour-baths*; but these demand especially the strict directions of the physician. Usually the douche is to be combined with the common bath, so that the douching concurs with the middle of the time for the bath. According to the purpose intended by the douche, there are exceptions to this general rule; the douche being given without the bath, or after it, or after a local vapour-bath. The usual time for douching with the frictions is from fifteen to twenty minutes. The temperature of the douches, their number etc. etc. must be regulated by the *physician.*

The vapour-bath is a very powerful remedy and should never be employed without the physician's special directions. Few patients, and these but of a very strong constitution, can endure it, without having previously taken a light breakfast. In the commencement a vapour-bath should not last longer than ten minutes; afterwards the time may be encreased. When the patient becomes giddy, or suffers from violent palpitations of the heart or congestions while in the bath, he must quit it instantaneously; a domestic must therefore be always in attendance. When only slight congestions to the head take place, the patient is allowed to cover the head with cold-water compresses. Immediately after the bath he is put to bed in an adjoining room for about an hour, that the perspiration which has been promoted by the bath may be kept up. During this time he may take a few tumblers of the sulphureous water. Sleeping must not be indulged. After the vapour-bath a much longer rest is necessary, than after taking acommon one.

DIETETICS, CLOTHING, EXERCISE, SPECIAL RULES IN CERTAIN DISEASES.

Besides a regular course of the waters, there is nothing which so much promotes its success as the patient's adherence to a strict regimen: *moderation* should be carefully observed in all points.

The *diet* should be always according to the constitution of the patient and the character of his malady. In the commencement it should be less rich and nourishing; when the influence of the course manifests itself, it may become more so. Plain animal and vegetable food may in most cases be taken; sour, fat, highly spiced and undigestible dishes must be avoided: such as salted and smoked meat, rich sorts of fish (eel, salmon) and pastry; hard boiled eggs, windy vegetables, salad, cucumbers, rich ragouts and greasy sauces, ice, cheese and raw fruit (with the exception of strawberries). Patients, who donot take the sulphureous water, are allowed some of these articles. For those who are accustomed to drink wine, the lighter sorts of Rhine (Hock) and Moselle are the most suitable; according to circumstances Bordeaux (Claret) and southern wines (Port and Madeira), diluted with water, are also allowed. Seltz- or Soda-water, pure or mixed with wine, are permitted. Neither is beer forbidden, if not strong, and when sufficiently fermented. For *breakfast* the patient may take coffee in small quantities and not too strong, or cocoa, divested of its oil; tea is less suitable; butter, if at all, in very small quantity. The *supper*, at an early hour, should be as slight as possible; tea may be taken by those, who are accustomed to it; otherwise, poultry, or venison with compot or some light vegetable.

"Of great importance", says Doctor Hufeland, "is also *the diet of the mind*; cheerfulness should always attend a person who takes a course of the waters."

In respect to *clothing* the patient must be very cautious: the course of the waters acting especially on the skin in promoting perspiration, it is of the highest importance not to get a cold, which would prevent or at least retard the benefit of the course. Even in the hottest days the patient should in this point never vary; changes of temperature usually succeeding a thunderstorm. Woollen clothing is in general the most suitable; and the patient should not venture to change it for linen even on very hot days, without wearing flannel underneath. In the morning and evening, and after the bath on walking home, especially after the vapour-bath, a cloak should be worn.

Early rising and early retiring to rest are advisable; eight, nine or ten hours repose in bed should be taken by the invalid.

The muscular system should be daily exercised, and always (weather permitting) out of doors; but the movement ought to be gentle, never exceeding the powers of the invalid. In visiting the neighbouring hills (Lousberg, Karlshöhe) he should always be provided with a cloak, on account of the stronger and cooler draught of air.

Of these general rules there are some which appear worth being set down for special diseases.

Patients suffering from *skin-diseases* should enter on the water-course early in the season (in May or June). The diet, especially in these cases, must be very simple; all heating substances and beverages being sedulously avoided. The clothing ought to be warm, but not heating; the movement moderate.

Patients suffering from *rheumatic* and from *gouty affections* will do best to choose the summer for the thermal treatment. They especially have to avoid all sour and salted dishes and acid wines; vegetables must be taken in due quantity, and only the lighter sorts of meat. In regard to clothing those patients ought to be especially cautious; flannel and cotton shirts are very recommendable.

For those afflicted with *hemorrhoids* and *swellings of the liver* and *spleen*, the spring is preferable to other seasons. A very regular regimen, light and not irritating diet, but every possible restriction in regard to wine etc., much out-door exercise, are quite indispensable. In *catarrhs of the bladder* the invalid should cover himself with flannel from head to foot, as the slightest cold in these affections produces acute pains.

Scrofulous patients require a nourishing animal diet, the vegetables (especially potatoes) being limited; much out-door exercise must be used.

Invalids affected with *Paralysis* demand *generally a nourishing*, but not irritating diet, and

not over loading the digestive organs; those whose lower extremities are palsied must take carriage-exercise. Paralyzed and very weak persons will do well to reside in a bath-house.

The sufferers under *mercurial* and *syphilitic diseases* must live in every respect very carefully, their diet must be nourishing, their clothing very warm; wine should only be allowed to very weak patients. Their best season is the summer.

ADDITIONAL NOTE AT PAGE 3.

Some of the more rare phanerogamic Plants in the environs of Aix-la-Chapelle and of Borcette, after the Linnéan System:

Callitriche verna et autumnalis L. — Circæa Lutetiana L. — Cyperus badius Reich. — Scirpidum aciculare N. ab E. — Cynosurus cristatus L. — Briza media L. — Vulpia Myurus Gmel. — Centunculus minimus L. — Asperula odorata. L. — Atropa Belladonna L. — Datura stramonium L. — Hyoscyamus niger L. — Menyanthes trifoliata L. — Cynanchum Vincetoxicum R. Br. — Viola lutea Sm.* — Impatiens Noli-tangere L. — Gentiana Pneumonanthe L. — Cicuta virosa L. — Parnassia palustris L. — Armeria vulgaris* W. — Calla palustris L. — Narthecium

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* These three Plants grow on calamine ground.

ossifragum Huds. — Allium ursinum L. — Maianthemum bifolium DC. — Trientalis europæa L. — Oenothera biennis L. — Paris quadrifolia L. — Butomus umbellatus L. — Monotropa Hypopitys L. — Pyrola minor L. — Arenaria cespitosa L.* — Lythrum salicaria L. — Geum urbanum et rivale L. — Nymphæa alba L. — Nuphar luteum Hayne. — Aconitum Lycoctonum L. — Helleborus viridis L. — Lathræa squamaria L. — Euphrasia odontites L. — Digitalis purpurea L. — Cochlearia officinalis L. — Malva moschata L. — Corydalis capnoides Pers. — Astragalus glycyphyllus L. — Carlina vulgaris L. — Calcitrapa Hippophæstum Gærtn. — Orchis coriophora L. — Gymnadenia conopsea R. Br. —Platanthera clorantha et bifolia Rich. — Ophrys arachnites et muscifera L. — Neottia ovata L. et Neottia nidus avis Rch. — Sparganium simplex Huds. — Arum maculatum L. — Sagittaria sagittifolia L. — Viscum album L.

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